THE JOURNAL

OF THE

Michigan State Medical Society

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SERVICE

The mission of the physician is essentially one of service; service to his patient, service to the community, service to the state, service to the nation, service to humanity! His service to the patient is rendered best by individual thought, sympathy, understanding and effort: service from one individual fortunately endowed with the knowledge and power to be of assistance to his less fortunate brother. The broader sphere of a physician's service opens up to him an opportunity of improving the health, well-being and happiness of his community in particular and the state and nation at large. The service of a physician is of the highest value if rendered to an enlightened and understanding public. Knowledge is power.

We must strive to so enlighten the public in general about matters of health, hygiene, preventative and curative medicine that they will so fully appreciate the value to them of honest scientific medicine that there will be no opportunity for suffering humanity to be victimized by the unprepared, the unscrupulous and the vicious. Let the members of the Michigan State Medical Society make the coming year notable by diligent and united effort to take the public into our fullest confidence in matters medical. A Happy New Year to You All!

LOUIS J. HIRSCHMAN, M. D.,
Past President Michigan State Medical Society.

Volume XXIX **JANUARY, 1930** **No. 1** [Whole No. 329]

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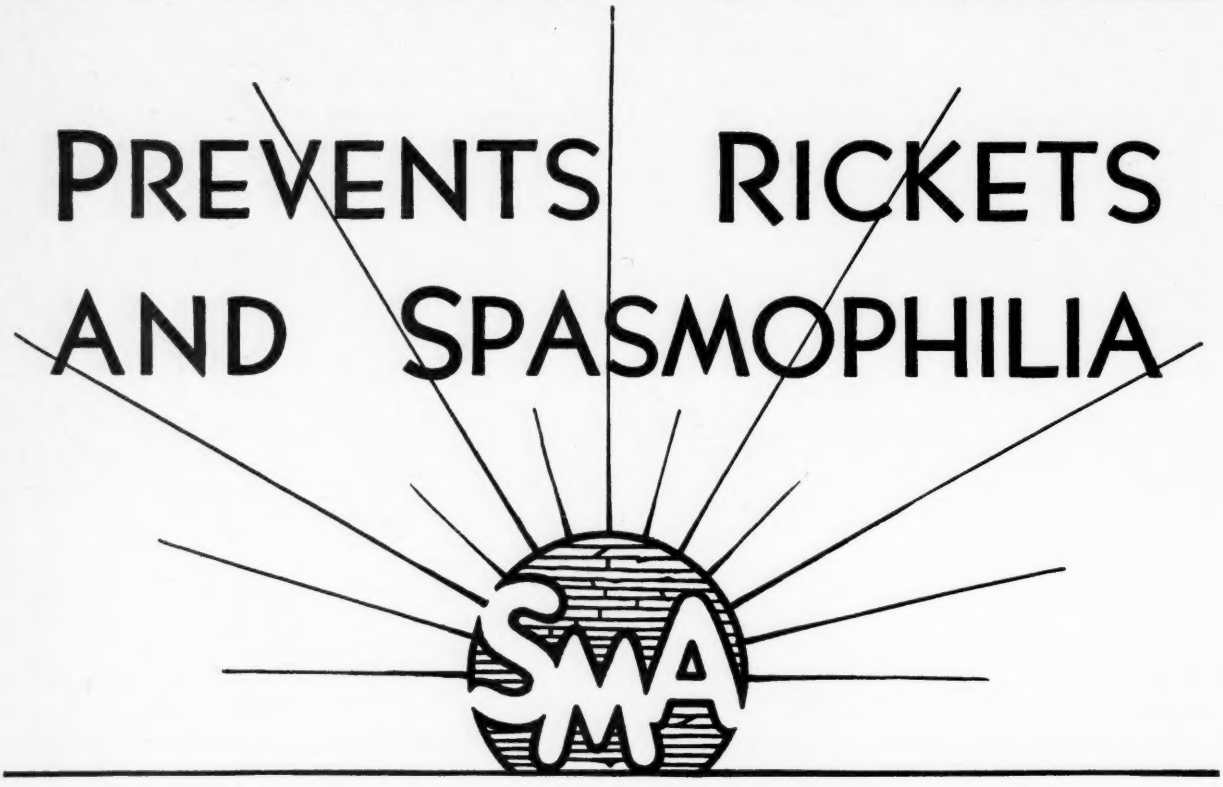
PREVENTS RICKETS AND SPASMOPHILIA



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CONTENTS

FEEDING AND THE NUTRITIONAL DISORDERS OF INFANCY*

JULIUS H. HESS, M. D.

CHICAGO, ILL.

This series of clinical conferences is inaugurated with the assumption that the University of Michigan Medical School and the Michigan State Medical Society have in mind the presentation of a practical review of the practice of medicine, together with the more recent advances in our knowledge and understanding as applied to infants and children.

It is with due appreciation of the many advances in our present knowledge which have originated with the faculty of your great medical school and the profession of your state that I address you on the subject of "Feeding and the Nutritional Disorders of Infancy and Childhood."

To quote briefly from an address by Dr. Guy L. Kiefer of your Board of Health before the Third Annual Conference of Public Health, held in March of this year, "it became evident that instead of devoting all their time to the care of sick people, physicians should make it part of their professional work to keep well people well. How this change developed is best seen in the specialty of pediatrics. Now the mothers are trained to prevent disease. They are shown how to keep the baby well from the day it is born. The private practice of preventive medicine, as far as babies are concerned, followed."

Dr. M. L. Harris, President-elect of the American Medical Association, in his address on Periodic Health Examination before the Illinois State Medical Society in May, 1929, stated: "To justify the medical profession in urging periodic health audits on the people, it must be clearly demonstrated that such examinations not alone tend to prolong the life of the individual, but that they also add to his health and happiness and usefulness to others. During the last quarter of a century from ten to twelve years have been added to the

* Conference under the auspices of the Couzen's Children's Fund of Michigan.

**Dr. Julius H. Hess is a graduate of the Northwestern University Medical School, 1899. He is at present Professor of Pediatrics in the University of Illinois College of Medicine, Chicago, Ill.

average expectancy of life. This increase in the average expectancy of life is due almost entirely to a greatly diminished mortality rate during the first few years of life so that a much larger proportion of individuals live to adult age. In fact, there has been practically no increase in life expectancy of those fifty years of age or over. If periodic health examinations are to accomplish great good they must be begun early in life when the defects that are discovered are still remedial and the regenerative and recuperative powers of the body are at their highest state of efficiency."

INFANT FEEDING—ITS PRESENT STATUS

The reception accorded the infant welfare movement in recent years impressed us with the demand for more serious consideration of the infant. Recognition of this fact by the profession has resulted in a profound reduction in infant morbidity and mortality.

To be successful in infant feeding we must have a knowledge of the fundamental dietetic requirements of the infant. The older members of the profession can readily recall not so many years ago when infant feeding was largely conducted by proprietary food manufacturers, often by direct correspondence with parents. Then came the period during which infant feeding received its full recognition in the medical curriculum, but now infant feeding seems to again be drifting out of the hands of the profession and various food manufacturers are more or less acting as self-appointed instructors.

The practitioner should consider the control of the feeding of infants as a prerogative of his profession.

There is no perfect substitute for human milk in the feeding of the infant. All endeavors made to feed an infant on a food not primarily intended for this purpose must be considered as trials at milk adaption. No single diet can possibly meet the needs of all infants.

It must be our object, first, to formulate our rules so as to make them safe and adaptable to the feeding of the majority of well babies. The food recommended will be excessive for some and inadequate for others.

While many excellent results have been reported with the various methods described for artificial feeding of infants, we believe that we must concede that the methods are all more or less empirical, and the result will be in considerable degree dependent upon the wide range of food tolerance of the healthy infant. The successful physician must depend on the clinical observation of the individual infant for the success of the method of feeding which he is using. Every formula with which we start feeding should be looked upon in the light of an experiment, and the reaction of the infant to this feeding should be studied carefully.

I believe that the attempts toward ultra refinement of the infant's diet have led to considerable confusion because of the different conclusions of the various schools undertaking the work. *The pressing needs of today call for a safe and practical solution of the feeding problem for the everyday baby in everyday life.*

In advancing the rules for feeding the normal healthy infant on sweet cow's milk dilutions to which carbohydrates and vitamin rich foods have been added, it is to be emphasized that in clinical experience they have been found safe for the baby and practical for the physician, which latter is neither to be overlooked nor taken lightly.

The clinical aspects as represented by the infant's disposition, temperature, weight, stools and hemoglobin, must be given equal consideration with the energy value of the formula. In a consideration of the latter the chemical composition must be considered of equal importance with the caloric value. Otherwise, one meets with profound disturbances due to feeding of insufficient or excessive amounts of the components of the diet, difficult of interpretation. Again we must not overlook the fact that the constituents of the diet must be in such form as to permit normal digestion and assimilation.

MILK DILUTIONS WITH THE ADDITION OF CARBOHYDRATES

If milk dilutions with the addition of carbohydrates are used, the simplest and most natural standard would be one which would tell us how much milk, water and carbohydrates per pound or per kilogram body weight the baby should get. To be exact, we should express, or at least be aware of, the number of grams of proteins, fats, carbohydrates and salts the infant is receiving for each pound or kilogram of its body weight.

Milk necessary per pound or kilogram of body weight. An average normal infant should receive each day a *minimum* of one

and one-half ounces of cow's milk per pound of body weight. (100 c.c. per kilogram). Many infants will require amounts approximating two ounces per pound of body weight. (130 c.c. per kilogram).

During the first days of life smaller quantities of whole or skim milk are indicated.

Underweight infants may require quantities approximating three ounces per pound for satisfactory gain. (200 c.c. per kilogram).

Food increases should be gradual.

ONE AND ONE-HALF OUNCES OF GOOD AVERAGE COW'S MILK CONTAINS:

Protein	1/20 ounce	(1.5 grams)
Fat	1/17 ounce	(1.8 grams)
Carbohydrate	1/15 ounce	(2.0 grams)

The following facts will be of assistance in estimating average, under and overweight in individual infants: Seven pounds may be taken as an average birth weight. Most normal infants will double this in their first five months and treble it by the end of their first year. Accordingly, infants should gain about five ounces a week during their first five months and should show gains of approximately four ounces a week during the last seven months of their first year.

Water Required. The amount of water to be added to the mixture will be governed by the number of feedings and their amount. Young infants will require one-fifth of their body weight in fluids daily, 3 ounces per pound (200 c.c. per kilogram). These amounts may be gradually decreased until in the last months of their first year one-eighth their body weight, 2 ounces per pound (130 c.c. per kilogram), will suffice. Some infants will not be able to assimilate such large quantities in the designated number of meals. In such instances water may be given between feedings to complete their fluid requirements.

Carbohydrates to Be Added. Normal full-weight infants will usually require a minimum addition of one-tenth ounce (3 gm.) of sugar to the milk mixtures for each pound of body weight (6.6 gm. per kilogram). For underweight infants the amounts should at first be calculated on the basis of their present weight, but increased if well taken, to coincide with the amounts indicated for a full-weight infant of similar age.

Cane sugar fulfills our requirements for most cases.

Milk sugar acts as a laxative in many infants and unless the laxative effect is desirable it has no advantges.

Maltose and dextrin compounds are acceptable to the infant's digestion in somewhat greater quantities than cane or milk sugar. They are not as sweet as cane sugar. Because of the high dextrin content, some of the products on the market may be constipating.

Corn syrup (Karo Red Label) contains dextrin—36 per cent, maltose 22 per cent, dextrose 7.4 per cent and sucrose 9 per cent. One fluid ounce equals one avoirdupois ounce of sugar.

A tendency to stationary weight is often relieved by the addition of cereal water as a diluent in the form of oatmeal, rice or barley water.

To Break the Curd to Assist in Digestion of Cow's Milk. Many infants can digest raw cow's milk. When not well taken the tendency to formation of large protein curds is relieved by boiling the milk from two to three minutes over the flame, or better, by putting it in a double boiler and heating until the water in the outer vessel boils eight minutes.

Although the curd is less finely divided by the use of the double boiler, as compared with boiling on the direct flame, it answers the purpose of most infants and causes fewer changes in the milk.

In my own practice all milk feedings are boiled.

Orange juice or acidified milks, as lactic acid milk, precipitate with a fine curd. The same is true of evaporated milk, condensed milk and various reconstructed milks.

Caloric Requirements. A normal infant should receive on the average 45 to 55 calories per pound body weight.

Underweight infants require from 50 to 65 calories per pound depending upon their age and development.

Increases in quantity of food should always be gradual, especially in marasmus, and the infant carefully observed and the increases made only as the tolerance for food permits.

The food formula of a baby making a satisfactory gain in weight should not be changed without a well defined indication.

Estimation of the caloric content of the food is not a feeding method and should be used only as a check on over and under feeding. The scale, stools and general condition, and particularly the disposition of the infant, are the ultimate guides for dietetic changes.

CALORIC VALUES OF VARIOUS FOODS

Cow's milk	20 Calories per Ounce
Human milk	20 Calories per Ounce
Skimmed milk	10 Calories per Ounce
16% cream	54 Calories per Ounce
Skim lactic acid milk	10 Calories per Ounce
Protein milk	12 Calories per Ounce
Cane and Milk Sugar	120 Calories per Ounce
Corn Syrup (Karo) (By liquid measure)	120 Calories per Ounce
Flour	100 Calories per Ounce
Maltose-dextrin Compounds, (Average)	110 Calories per Ounce
Cereal Waters, (1 ounce Cereal to quart)	3 Calories per Ounce

EQUIVALENTS OF ONE OUNCE OF CARBOHYDRATES AND THE DOMESTIC MEASURES

	By Weight	By Measure	Tablespoonfuls
Cane Sugar	1 oz. 30 Gms.	1.00 oz.	2
Milk Sugar	1 oz. 30 Gms.	1.50 oz.	3
Maltose-dextrin	1 oz. 30 Gms.	1.50 oz.	3
Corn Syrup		1.00 oz.	2
Flour (wheat)	1 oz. 30 Gms.	2.25 oz.	5
Flour (barley)	1 oz. 30 Gms.	1.50 oz.	3
Barley (pearl)	1 oz. 30 Gms.	2.50 oz.	5
Oats (rolled)	1 oz. 30 Gms.	2.50 oz.	5

1 tablespoonful equals 1.5 dessertspoonfuls equals 3 teaspoonfuls (level)

FEEDING EXAMPLE

Normal infant—age three months. The infant should weigh 11 lbs. (Average birth weight 7 pounds, plus 4 pounds, representing a gain of 5 ounces weekly for thirteen weeks). Estimating 1½ ounces of milk per pound body weight, give 16½ ounces of milk. Adding 3 grams of cane sugar per pound, or 1 ounce for each 10 pounds, is 1.1 ounces of sugar, or approximately 2¼ level tablespoonfuls per 11 pounds.

The infant should receive total fluids approximating 1/6 of its body weight, or 2½ ounces per pound body weight, or for the day 27½ ounces. This would require the addition of 11 ounces of water.

The infant should be fed five times daily and should receive 5½ ounces of the mixture at each feeding.

A fruit juice and either cod liver oil, viosterol or viosterol in cod liver oil should be included in the diet.

	Ounces	C.C.	Protein	Fat	Carbo-Hydrate	Salts	Calories
Milk	16.5	495	17.3	19.8	19.8	3.46 Gm.	346
Water	11.0	330	.....	.....	.....	.....	.....
Sugar	1.1	33 Gm.	.....	.....	33.0	.....	132
Total Fl.	27.5	825	17.3	19.8	52.8	3.45 Gm.	478
For each pound body weight			1.575	1.8	4.8	0.31 Gm.	43

Additional Foods From the Second to the Sixth Month. The milk mixtures may be supplemented by the following additions to the diet:

Cereal waters may be used if desired as the diluent beginning with the second month. These are best made from whole cereals, as the dextrinized flours are devitalized.

Orange juice should be started during the first month, beginning with one teaspoonful, diluted with water, twice daily, and increasing gradually until two ounces are given by the fourth month.

Cod liver oil should be started before the second month, beginning with 15 drops twice daily and increasing to one teaspoonful twice daily by the end of the fourth month—from spoon or dropper.

Viosterol or viosterol in cod liver oil may be used in place of plain cod liver oil. The daily prophylactic dose of viosterol for the average infant is 8 to 10 drops, for the premature and rapidly growing infant, 15 drops. It is preferable to start with smaller doses, increasing gradually over a period of two weeks. Mild cases of rickets require 15 drops and moderate cases 20 drops. Exceptionally severe cases, late rickets and osteomalacia may require as much as 30 drops for limited periods.

If viosterol in cod liver oil is used the dose is ¼ to 1 teaspoonful twice daily.

Cereal gruels (oatmeal, farina, cream of wheat) can be started by the beginning of the fifth month. They should be well cooked. The gruel can be added to one of the mid morning meals and later to the evening meal as well, starting with one-half tablespoonful and increasing gradually until two or three tablespoonfuls are given twice daily.

Additional Foods from the Sixth Month to the End of the First Year. A broth and vegetable meal may be gradually substituted for the midday meal at the sixth month. This is best given as a vegetable soup. Feeding should begin with one ounce, gradually increased to eight ounces, one ounce of milk mixture being omitted for each ounce of soup given. If less than a full feeding is given, the meal should be finished with sufficient milk mixture from a second bottle, to make a full feeding.

Strained vegetables (spinach, carrots, potatoes) may be added in small portions by the eleventh or twelfth months, as a side dish. There is little advantage in so using them before this time, for the vegetables in the soup, when rubbed through a fine sieve, are incorporated in the broth.

Toast or dried bread crumbs may be added to the soup if desired.

Stewed fruits (apples and prunes) may be fed in small quantities by the end of the first year. So far as their vitamin content is concerned, they are inferior to orange juice.

Fruit Juice Milks—Milk Acidified with Orange Juice. Orange juice can be added to cow's milk in amounts of 1 ounce (30

c.c.) to each pint of milk in the mixture. If the milk is stirred while the orange juice is being poured in there will be no curdling.

It should be emphasized that the amount of orange juice advised to bring about the described chemical changes in the milk, namely, small curd formation, a pH approximating 6.0 and denaturization of the proteins, is 1 ounce to each pint of milk in the mixture; in other words, a mixture containing 1 pint of milk and 1 pint of water would have 1 ounce of orange juice added. Orange juice milk can be started as early as the second or third week of life. When first added to the infant feeding it should be added in amounts of one-half ounce to the pint of milk. Occasionally an infant who receives the full amount will show some flatulence and looseness of the bowels, more especially when very sour oranges are used. In such cases it may be reduced to one-half ounce to the pint of milk. An ounce of orange juice to the pint of milk may be considered as a maximum addition.

The orange juice milk stools are usually of a light yellow color and more plastic than are seen in infants fed on similar mixtures without the orange juice addition.

Egg Yolk Additions. In addition to fruit juices, yolk of raw egg with its high iron, fat-soluble A and antirachitic vitamin content can be added to advantage. I start with an amount approximating one-fourth of a teaspoonful of a fresh yolk by the time the infant is three or four weeks of age and increase the amount to a whole yolk by the end of the third month of life. Care should be used in selecting eggs of good quality. An average yolk is approximately three teaspoonfuls.

About *ten per cent* of infants will show evidence of moderate sensitization by the development of skin rashes or colic if it is increased too rapidly. About *two per cent* of our series of cases evinced a true anaphylactic reaction with associated vomiting and diarrhea. In no case was it of a serious nature. Therefore when first introducing egg yolk, only a few drops should be added to the mixture. Many infants with eczema can take egg yolk—try them out with minimal additions. Egg white idiosyncrasies are far more common than those due to egg yolk. Care should be exercised in separating the egg yolk from the white.

Coddled instead of raw eggs may be used.

The orange juice and egg yolk are added after the milk has been boiled and cooled.

They are simply stirred and not beaten into the milk mixture.

This fruit juice and egg yolk mixture contains all of the known vitamins in large amounts, the iron greatly needed by the artificially fed infant, and other valuable mineral constituents.

Lactic Acid Milk. If milk is first sterilized or pasteurized and then inoculated with a pure culture of the Bulgarian bacillus, streptococcus lacticus or B.acidophilus, a lactic acid milk will be produced which is entirely free from harmful organisms. Bacterial inhibition begins at pH 5.0 and is almost complete at a pH of 4.0. A growth of even the lactic acid producing organisms is inhibited and the acidity does not become much higher, even though incubated for long periods.

Whole lactic acid milk may be prepared by two methods; by the artificial souring of milk by acid-producing organisms and by the direct addition of lactic acid to sweet milk. Milk artificially soured by lactic acid organisms can be prepared at home. In practice I use milk soured by cultures rather than that made by the addition of U. S. P. lactic acid, when the diet is indicated. Carbohydrates are added in the same amounts as recommended for fresh milk mixtures. Corn syrup may be used instead of sugar, one to one and one-half ounces by measure of the syrup being added to the day's food.

Dried Milks. Of all powdered milk foods the whole, part skimmed and fat free sweet milks and lactic acid milks are the most rational for infant feeding because they call for reconstruction into formulae correctly adapted to the individual infant's needs. Dried protein (albumin) milks are in a class by themselves.

Dried Sweet Milks. Through intensive advertising the manufacturers of dried milks have created a large market for their products. While they have a legitimate place among foods which may be used for infant feeding there is no indication for their replacing fresh cow's milk of good quality. There is a tendency to give more calories when feeding dried milk than when prescribing fresh cow's milk. Frequently dried milks are given with less modification than is cow's milk, especially with less sugar addition. Results obtained with dried milk are only comparable to those obtained with fresh cow's milk when they are given in the same physiological concentrations. The fat-reduced dried

milks are open to the same objections that attend the use of fresh skimmed milk.

Dried milks are especially useful in the presence of a questionable milk supply, as an early complementary food for nursing infants, and while traveling. In emergencies such as the delivery of spoiled or frozen milk they offer a safe source of food supply.

Because of their soft friable curds and small fat globules they offer a valuable medium when concentrated foods are indicated in anorexia, vomiting and malnutrition, thereby increasing the caloric intake. This can be accomplished either by adding an increased amount of powder to water or by additions of powdered milk to fresh milk formulae.

Dried Cultured Lactic Acid and Protein Milks. Several firms now produce dried lactic acid milks which can be used when freshly prepared cultured milks are not available.

They are of value as a complementary or substitute feeding for the breast-fed infant whose stools have a tendency to be loose or frequent. This is particularly true of dried lactic acid milk.

Dried protein milk and lactic acid milk have an especial value as therapeutic diets in diarrheal disorders.

In prolonged feedings with powdered milks, orange juice, cod liver oil or egg yolk must be added to the diet.

As some of these milks are prepared by the drying of the cultured lactic acid milk and others by drying sweet milk mixtures soured by the addition of U. S. P. lactic acid, it is necessary for the physician to become acquainted with the various products of different manufacturers if constant results are to be expected.

Unsweetened Evaporated Milks. They are made by heating the milk to 200 degrees F. and then transferring it to vacuum pans, where it is maintained at a temperature of 125 degrees F. until sufficient water is evaporated to bring the product to the required condensation. In most products this milk is about double strength.

The sugar content not being in excess, these milks can be so diluted that a reasonable amount of fat and protein may be obtained with, however, a considerable deficiency in sugar. This relatively low amount of carbohydrate can then be made up by adding sugar (cane, maltose-dextrin compounds or corn syrup) much the same as is done with cow's milk. Vitamins A and B are probably not injured by the evaporation process, but Vitamin C is less heat stable. Orange or tomato juice is needed.

The habit of prescribing a diet for an infant and then leaving it to the mother's discretion to increase or even decrease the food as she may see fit is doing the child a tremendous injustice. Those who have had large experience in the feeding of children with nutritional disorders can testify to the large percentage of rickets, tetany, scurvy and acute gastric and intestinal upsets which would have been avoided by timely dietetic and hygienic instructions to the mother and the nurse in charge had they appeared for periodic examination. I wish to convey the impression that there is such a tendency on the part of the laity when canned products are prescribed, unless mothers are properly warned. Mothers should, therefore, be forewarned of the need for periodic return for physical examinations and upon their revisits the physician should give these infants his best thought.

POISONOUS DRIVING

It is absolutely imperative that the police call a sharp halt on the thousands of drivers of motor vehicles in this city who have fallen into the vicious habit of traveling about with clouds of bad smelling vapors and poisonous gases spouting from exhaust pipes. The condition arising as a result of the practice has grown so bad that it is more than a mere nuisance; it is a peril. The pollution of air has become deleterious to health and even a threat to life. And it is altogether without excuse.

The modern motor vehicle is equipped with an engine which makes emission of smoke, vapor or gas easily avoidable under every ordinary circumstance, if it is kept in a proper condition, correctly fueled, and run intelligently. A long filthy, floating stream in the rear of a motorbus (and the city busses are bad offenders), private car, or truck, is an evidence of ignorance or negligence, and convicts the driver of lawlessness. For the ordinance is definite in forbidding anything of the sort. We think it also is quite fair to say that the general condition to which we are calling attention is an evidence of large neglectfulness on the part of the police, since it is up to them to see that city regulations are obeyed, and it is quite plain that for a long time little or no attempt has been made to enforce the one against vaporous, gaseous driving.—Detroit Free Press.

VICTOR C. VAUGHAN, M. D. LL. D.—AN APPRECIATION

C. B. BURR, M. D.
FLINT, MICHIGAN

Accepting the definition of genius as "remarkable aptitude for some special pursuit", a painstaking biographer would find himself at once and irreconcilably at variance with Dr. Vaughan's estimate of his own qualities. He writes in "A Doctor's Memories":

"I am not a Chinaman and do not practice ancestor-worship, but I do respect my forebears and acknowledge my indebtedness to them. They have transmitted to me no spark of genius. I am not aware that any of them ever possessed such a gift, be it in form of a blessing or a curse . . . . "

His descent in the maternal line was from French Huguenots who came to this country in 1699, settled at first on James River, eventually dispersed through Virginia and North Carolina. His family so far as he could ascertain, "bred constantly plain people, honest according to the standards of its several generations and rebellious to dictation from others in religion, morals and politics."

Ample confirmation of the final sentence in the above quotation from the "Memories" is furnished by an episode in his career at the University of Michigan. While the matter of promotion was pending in the Board of Regents, the charge of atheism was introduced. To Dean Palmer, who in agitation revealed this and suggested the importance of denial, he said: "Tell the Board that I decline to make confession of faith to them. The position concerns the teaching of science and has no relation to religious belief."

And resistance to coercion was natural and ingrained. An ancestor fought in the Revolution, a relative had part in the Black Hawk War, another was surgeon in the Confederate army and his father served for a time in the United States Army.

Dr. Hubert Work, President in 1920, of the American Medical Association, is quoted as saying, "You all know that Dr. Vaughan is already known as the greatest man in American medicine in Michigan, and a great many of us believe he is the greatest man in American medicine today." Obviously appraisal of the values of such a life must be a composite product and can from no particular pen, however facile, appear even measurably just and complete. Much less may an estimate from the present writer all too ill equipped for the service, fulfill requirements and be satisfying. The opportunity is welcomed, however, to pay tribute to this extraordinary man, my friend. I admired him and to employ a good old-fashioned word "liked" him. Every confidence or suggestion he ever gave me was prized and for many, many years I felt definitely at home in his company.

My memories of Dr. Vaughan hark 'way back to the winter of '76-7, when young, verdant and inadequately prepared, I became a student in the Medical Department of the University of Michigan. He was also young—five years my senior, but he had a cultural and pedagogic background. In passing, it may be mentioned that nothing whatever of this was displayed in his attitude toward students. Indeed, his sympathetic understanding and considerateness related him perhaps more closely with them than with the teaching staff of the department, all older and highly worthy men who had *arrived*. However, he was at that time definitely on his own way to distinction.

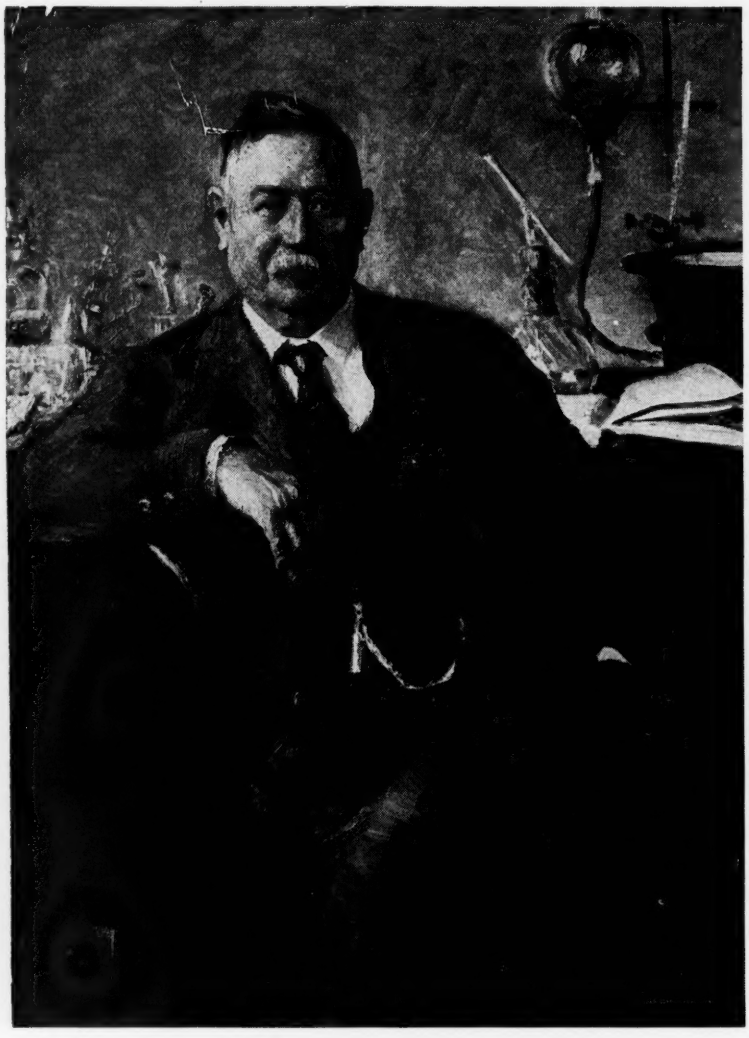
Coming from Mount Pleasant College, Missouri where he was graduated in 1872 and taught Latin and chemistry until 1874, lured by Douglas and Prescott's Qualitative Analysis which decided in his mind the long debated question whether to choose the classics or science for his life work, he came to the University of Michigan for post-graduate study. There he acquired in 1875, the degree of Master of Science, in the following year that of Ph. D., and in 1900 an LL. D.

He entered the medical school in 1876 and was graduated two years later. Before matriculation therein he had acted as voluntary and temporary demonstrator in the dissecting room. His appointment as instructor in physiological chemistry followed the enforced retirement of Professors Douglas and Rose which came about through careless business methods and was, he declares, "a regrettable and sorrowful affair."

In his first appearance before the student body he tactfully avoided any subject

in chemistry and spoke on "The Structure and Function of the Kidney." Potentially hostile partisans on both sides of the controversy were placated and all went out singing, "He's a Jolly Good Fellow." Commenting upon this in "Memories" he writes: "During the forty-five years that I continued to lecture to medical students not one has ever shown me the slightest disrespect in classroom or elsewhere."

During my brief student days in the University he was instructor in the chemical laboratory over which presided the distinguished Dr. A. B. Prescott who "with a benignant smile and a genial voice answered the student's queries both the wise and the unwise." What Dr. Vaughan thus writes was equally true of his own painstaking efforts — greatly appreciated by students. There was, naturally, nothing which savored of intimacy between himself and them but a cordiality existed in their relationship. My own acquaintance with him, of course quite casual at the time, ripened eventually into enduring friendship and is treasured as a choice possession.



DR. VICTOR C. VAUGHAN

(This illustration is printed here through the courtesy of the Michigan Alumnus where it appeared on the cover of The Alumnus of November 30th.)

I never suspected until encountering the story in "A Doctor's Memories" that his early education had been all 'round of such a liberal character. That he was gifted as a teacher all having acquaintance with his methods can testify and it is plain that familiarity with the classics lent much to the well chosen diction present in both his verbal and written productions.

It was the theory of President Terrill, the "greatest educator (he) ever knew," of Mount Pleasant College, where Dr. Vaughan became the "Alpha and Omega of the advanced class in Latin," that no one "knows anything until he can state it in writing."

To Dean West of Princeton, Dr. Vaughan said: "Although my adult life has been given to the sciences, I wish to testify that the first author to stimulate the pyramidal cells of my cerebral cortex was old Virgil and even now in my old age, there is only one book which I prefer to Virgil and that is Dryden's translation, which I read with less effort." (Memories) Of Professor Frieze he writes that to be with him "was to receive lessons in grace and courtesy. He was my ideal of a learned man. I could not make of him a Trojan hero; not even an Aeneas; he was Virgil himself." (Memories)

Concerning his old home in Missouri, "colored by the imagination of Walter Scott, the stately lines of Virgil and the eloquence and wisdom of the great pagan, Cicero," he is no less than poetic. Of the vicissitudes of childhood when during the Civil War brother was arrayed against brother, and where he learned to love peace

so dearly that a willingness to fight for it developed, he writes thrillingly but without bitterness.

"Whatever I may intend to say," he declares, "when I am to make a speech, when I actually begin to talk, I always give expression to my convictions." "God pity the country,"—he exclaimed, "in mental frenzy," at a mass meeting where there was considered a call to arms for the Spanish-American war—"whose tramps must fight its battles." This speech Dr. Vaughan humorously writes, brought about a commission from Governor Pingree. "Some enlist because they like the soldier's life, some for patriotic reasons, but I received my commission because I talked too much."

No manner of doubt exists in the minds of those who knew him well that he spoke from conviction. His language was plain and forceful. At a meeting of the State Medical Society in 1883, he said, "I have attended several meetings . . . . but never before have I known the Committee on Admissions to wait so long before reporting. There is an apparent intention at least to choke off those who have come here to join this Society." During a symposium in the same Society in 1894 he inquired—I can hear his voice—"whether there were any bacilli in those guinea pigs, anywhere in those guinea pigs when they died of tuberculosis." The one interrogated could not reply "off hand." He (Vaughan) thought the logic employed in the discussion was bad . . . . that "the only possibility of controlling the spread of consumption consists in the destruction of the bacillus."

Those who have been perplexed and irritated by the frequent neologisms purveyed in medical nomenclature are entitled to a chuckle over his pronouncement, "the coining of new words is sometimes mistaken for progress in science." His "Memories" are shot through with practical humanistic philosophy.

From early years at the University the Vaughan home was an open house for students. During forty-five years teaching no graduate of the Medical School "escaped" an invitation there. His disciplinary measures toward the careless and intemperate consisted at first in a warning which betrayed acquaintance, chapter and verse, with the student's shortcomings. He was accustomed in classes to emphasize the danger to others through impure contacts. His "as an individual you are of no importance anyhow, risk getting venereal disease if you must" was apt to be efficacious with the lustful.

His rise was rapid. In 1887 he became Dean of the Medical faculty. Among his choice "Memories" are appreciations of his sometime colleagues.

Dr. Ford "knew anatomy, both human and comparative. He lived it and taught it in a way that held the individual attention of every student—he awakened a love for it in his hearers."

Alonzo B. Palmer was "a great teacher of internal medicine."

George E. Frothingham "was my preceptor and I can not speak of him without love and reverence."

"Maclean was a most fascinating man. I do not think that any teacher in the University within my time was so greatly admired by the students as he."

Of Dr. Charles B. de Nancrede he writes, "I cannot overestimate the service rendered to the University by this man."

Of Dr. Darling, Dr. de Nancrede's successor, he "honored his chief and himself in a splendid way."

And of a venerable friend, "I left the cottage bearing in the memory chamber of my brain a portrait of a saint such as no old master ever painted."

When he resigned from the University, a newspaper reporter asked for a list of his discoveries. He was told that there were many important ones and gave among others the names of Doctors Novy, Huber, Warthin, Edmunds and Weeler.

Among my pleasantest memories are those of a visit to us in Flint with his charming wife and three sons, all later to be distinguished in medicine. The family was on the way to Northern Michigan where apart from the carks and cares of teaching, of court duties and medical practice, he was accustomed to spend the summer months. Another choice recollection is of a reception at Oak Grove to Dr. Sawyer, President of the State Medical Society. Witty, versatile in story telling, he was at his best on this occasion and those who were privileged to remain late will not forget his contribution to the entertainment of the company, one of whom in sheer hysterical glee slipped from a chair to the floor.

Neither can I forget an afternoon's drive, to which he invited me, about Washington. Its history, its topography, its monuments were completely familiar to him. This was during the late war. What a fine soldier he was! How much the coun-

try is in his debt for meritorious service during this and the earlier embroilment of 1898!

His thrilling experiences under fire in the battle of Santiago, his contention with yellow fever to which disease he himself eventually succumbed, the beneficent and far-reaching results in conservation of soldier life, attained by the Typhoid Fever Commission in which he had membership, his record in the world war, his contributions to bacteriology, chemistry, general medicine and sanitary science need not be detailed. Discussion of these would be supererogatory as well as necessarily fragmentary. Verily, just is the caption of a biographic sketch in the Detroit Saturday Night—"Dr. Vaughan, a Medical Pioneer."

He regretted the expansion of once fascinating cities like Detroit and Cleveland, which he would now "drive miles to avoid penetrating."

He "never read a lecture and seldom used notes," preferring to study the faces before him.

In "A Doctor's Memories" (1926) he avers:

"My life has been determined by heredity and environment. These are the factors that have molded my being, given direction to its development, marked out the course of its growth and set bounds to its activities. Had either been different from what it was, better or worse, I would have been different from what I have been and from what I am."

In the same year I wrote as follows: "If one had his life to live over, it would be an exact replica of the past—his reactions to his environment would be identical. If environment or reaction differed in any particular it would not be 'his life' ".

My last communication from him was dated at Washington, April 27, 1927 and reads:

"My dear old Friend:

"I have just read your letter and your aphorisms. The former I greatly appreciate, and the latter I endorse in toto. Although I am now in hospital, I am hoping sometime in the near future to meet you in the flesh, when we will go over our common experiences.

"With love,

"Yours truly,

"Victor C. Vaughan."

TRACHOMA IS LEADING CAUSE OF BLINDNESS

The chief cause of the nearly two and one-half million cases of blindness existing in the world today is trachoma, Lewis H. Carris, managing director of the National Society for the Prevention of Blindness, stated on his return from a world conference on blindness held at The Hague.

This disease is found in nearly every part of the globe, but it is at its worst in Oriental countries. It is most prevalent in Egypt and along the borders of the Mediterranean Sea, in Palestine, China, the Balkan States, India, the hot sections of Brazil, and, in our country, among the inhabitants of the Appalachian and Ozark Mountain districts and among American Indians.

Trachoma is a highly contagious disease. The roller towel has been the cause of many epidemics of the disease in industrial plants. A common family towel is also a potent spreader of the disease among members of the same household. Poverty, crowding and unsanitary living conditions are important factors in the contraction and spread of trachoma.

The disease causes redness, painful inflammation and granular growths, looking something like sago, within the lids. These irritate the cornea, producing ulcers and later scars. The scar formation may produce an opaque layer covering the pupil which results in loss of sight.

In individual cases the disease may be checked by proper treatment, but trachoma is so widespread that it cannot be entirely controlled until more is known of its cause. Dr. Hideyo Noguchi, working at the Rockefeller Institute for Medical Research, thought that he had found the organism or germ causing trachoma. Since his death the work has been continued, but further results have not yet been announced. Other investigators have considered diet a causative or predisposing factor.

The United States has for many years refused admission to immigrants showing symptoms of trachoma. The U. S. Public Health Service has been conducting extensive studies of the disease in the sections of this country where it is prevalent.

Other major causes of blindness are venereal diseases, babies' sore eyes, smallpox, glaucoma, congenital defects and accidents. — Science Service.

1929 A HEALTHY YEAR IN SPITE OF INFLUENZA

In spite of the influenza epidemic during the first three months, the year 1929 has been a healthy one so far, statisticians of the Metropolitan Life Insurance Company have announced. At that, the years 1928 and 1927 made better health records from January to September, the period which has just been surveyed for the current year. Heart disease is still the leading cause of death. Encouraging decreases occurred in the tuberculosis and maternity death rates, while that for diphtheria was the lowest recorded in the history of the company. This is considered due to the intensive anti-diphtheria campaigns waged during recent years by various health departments. Cancer and diabetes showed increased death rates, and the mortality for automobile accidents increased by one-tenth over that of the same period for 1928.—Science Service.

A REVIEW OF LITERATURE RELATIVE TO ANIMAL EXPERIMENTATION REGARDING THYMIC DISTURBANCE*

CLEMENT A. SMITH, M. D.**
ANN ARBOR, MICHIGAN

The amount of animal experimentation directed toward elucidating the function of the thymus gland is quantitatively very much larger than the conclusions which may be drawn from it. The proven facts emerging from the following chronological review may be summed up in a very few sentences. The purpose of the reviewer is to emphasize only such truths, but to give at the same time a condensed statement of the work—acceptable and otherwise—from which they have emerged.

For about eighty years the investigation of thymus function proceeded almost entirely by the method of operative removal from animals, followed by observation as to the results. The earliest experiments those of Restelli[1] in 1845, followed this method. He operated on 98 sheep, dogs and calves. Owing to the severity of the operation only six animals survived for observation purposes, and from these he was able to draw no conclusions. Friedleben[2] followed him in 1858, removing the gland from goats and dogs, and in some cases removing the spleen as well. His method consisted in incising the left sternomastoid muscle, tearing through the fascia, and pulling the gland out through the opening. He usually produced a left-sided pneumothorax during the process. One of his dogs showed changes in the long bones—a widening of the marrow at the expense of the cortex, and a diminished regidity. He did not feel this an important enough finding to list it among his conclusions, which were that the thymus alone was not essential to life, but was so in conjunction with the spleen. The importance of the thymus, he felt, had to do with blood formation, nutrition, and growth. He noted that his operated animals developed voracious appetites, and grew faster than their controls. It is doubtful if his thymectomies were complete.

The subject then rested until 1893, when Langerhans and Saveliew[3] reported results on rabbits and dogs. To Friedleben's operative method they contributed the important idea of controlling their experimental animals with others from the same litters. Their animals showed no important changes. Tarulli and LoMonaco[4,5], in 1894 and 1897 reported results on dogs and chickens. The important findings in their observations were: retardation of growth for two months, but at the same time abnormally increased appetite; permanent shortening and coarsening of the hair, and transient anemia and leucocytosis. They noted particularly in their chickens that the results were more pronounced when operation was done at an earlier age.

At about this same period we have the work of a number of investigators on the frog—an animal chosen because its thymus was thought to persist with undiminished function throughout life. Abelous and Billard[6], and Camia[7] on the one hand decided from their work, that in the frog the gland was absolutely essential to life; but Vincent[8], Ver Eecke[9], Hammar[10], Pari[11], and Adler[12] convincingly disproved these findings, showing that the misleading results of the former workers came from improperly controlled environment. One finding which emerges from this work was that of Adler—that in the thymectomized frog the testes and thyroid became enlarged, with diminished colloid in the latter.

Carbone[13], in 1897, Ghika[14], in 1901, Cozzolino[15], in 1903, and Sinnhuber[16], in 1904, all attacked the problem, using for experiment rabbits, dogs and cats. The two former give no important findings. Cozzolino reported what he thought were rachitic changes in the bones of two uncontrolled thymectomized rabbits, but Sinnhuber could find no relation between the gland and calcium metabolism.

The question of the relation of the thymus to the testes appears again in the studies of Vincent[8], and Paton and Goodall[17], who showed what they believed to be an antagonism between these organs in sexually immature animals. In the young animal the removal of either element appeared to cause a hyperplasia of the other.

Park and McClure[18], who are painstaking critics of all literature on thymectomy, look with suspicion on the work of Bracci[19] and Fischl[20], on rabbits, dogs, goats, and chickens. Both published papers in 1905. Bracci found a beautifully exact relation-

* Presented at the 109th Annual Meeting of the Michigan State Medical Society, Jackson, Michigan, September 17, 18, 19, 1929.

**Clement A. Smith, M. D., Graduate of the University of Michigan Medical School, 1927.
Resident in Pediatrics and Infectious Diseases, University Hospital, Ann Arbor, Michigan.

ship between the thymus and calcium metabolism—the excretion of that element being much greater in thymectomized animals. Fischl found no differences in healing of artificially produced fractures in thymectomized and control animals.

The work of Basch[21] was published in five papers, from 1902 to 1908. He developed a new operative thymectomy in the dog. He dissected down to the sternum, divided that, exposing the thymus, and dissected out the gland from above downward. In general, he found that if the thymus be removed from a puppy in the third or fourth week of life there follow within two or three weeks a softness and flexibility of the long bones, less calcification, with wider epiphses, and a broader, more wavy epiphyseal line. Such conditions usually disappeared five or six months after thymectomy. Moreover, he also noted changes in nerve conduction and in some cases tetanic convulsions in these animals. He concluded that the thymus was not essential to life in the dog, but had an important function concerned with calcification and the growth and development of bone; and also was in important relationship with the parathyroids. Park and McClure, who carefully examined his work, believe many of his conclusions to be unjustified. For example, they were able to produce exactly similar bone changes in a normal puppy caged and fed as Basch's thymectomized animals were.

Soli's[22] experiments in 1906, 1909, and 1910, on chickens, rabbits, and guinea pigs, are unimportant except for one interesting finding. Removal of the thymus from hens (which seem to have been aged one year or more) was followed by a period of four to eight weeks in which the birds layed eggs with extremely thin shells, or with no shells at all. His conclusion was that the thymus gland in some way enable the birds to absorb and utilize calcium for the shell.

In 1908, we find MacLennan[23] contributing a new operative method in which the sternum is entirely removed, and showing that young rabbits and cats seemed absolutely benefitted in health and growth by thymectomy. His animals showed mild changes in the bones; their thyroids were smaller, paler, and more cellular than those of controls. He is the first to advocate the operation as a therapeutic measure.

Sommer and Florcken[24] observed a reduced calcium content in the bones of thymectomized dogs and kittens. Ranzi and Tandler[25] in 1909 introduced the use of artificial respiration in their thymectomies, but their work is not otherwise important.

The publications of Klose and Vogt[26] up to the year 1914 equalled the combined output of all their predecessors. Their results were accepted as highly important at the time but it may be said before commenting on them that they were later entirely disproven by the work of Park and McClure[18]. These authors not only convincingly refute the arguments of Klose and Vogt, but actually disprove their results by repeating their experiments. Therefore, only a very brief statement of Klose and Vogt's work is necessary here. Their thymectomies on dogs of less than ten to fourteen days of age were followed by a regular sequence of events: (1) A "latent period" of two to sixteen weeks, in which nothing happened; (2) a stage of adiposity" of two to three months; (3) A "stage of cachexia" during which there was general debility, and changes in consciousness and intelligence referred to as "thymic idiocy." Finally there was coma and death in three and a half to seventeen and a half months after the operation. In older dogs these changes were either very much prolonged, or did not follow thymectomy at all.

Klose and Vogt reported extremely marked skeletal changes in their animals, such as general shortening, softness, multiple fractures, irregular epiphyses, decrease in osteoid and in calcium content. The spleens of their animals underwent characteristic changes of hypertrophy followed by hyperplasia. Splenectomy combined with thymectomy markedly accelerated the train of post-thymectomy symptoms described above. A hypertrophy of the thyroid, genital glands and pancreas also followed their thymectomies.

Finally they put forth a theory of thymus function as follows: The thymus in fetal and post-fetal life is the chief organ of "nuclein synthesis." Its removal allows phosphoric or nucleic acid to increase in the blood, causing a phosphoric acid acidosis. This acidosis gives rise to the bone and nervous system changes. The spleen may take over thymus function when the thymus involutes.

The work of Matti[27] at the same period went still further. Although he reasoned from results on only one-half his cases (results in the other half having been entirely negative) and although much of his work was quite contradictory to that of Klose he states that he produced bone

changes by thymectomy almost exactly simulating those of rickets. He also found hypertrophy of the adrenal medulla, the thyroid, pineal and pancreas, and increase in the Malpighian bodies of the spleen. The death which followed thymectomy in his positive cases convinced him that the gland was essential to life.

Klose[29] was so much impressed by his work that he altered some of his earlier published work, said that the bone changes shown by his animals must have been rickets, and withdrew his theories of spleen and thymus interaction. He still held to his theory of "nuclein synthesis," but he never had anything but speculation to support this.

Passing over the work of Gebele[29], which is unimportant, we come to that of Hart and Nordmann[30]. They performed a series of experiments on the dog, using the older operative measures, and a new one in which the first to sixth ribs of the left side were cut near the sternum, and the latter lifted outward, giving a very good exposure of the thymus. In their earlier work they found some changes in growth, vigor, the testes and the hair. They never found bone changes. Gradually Nordmann[31] perfected his technic. Finally he was able to remove the thymus from animals of eight litters in the second week of life with absolutely no results pathologically or symptomatically. Moreover, microscopic examinations done at autopsy later proved that his thymectomies were complete. He was the first investigator to question the work of Klose, Vogt and Matti, and suggested that the environment and care of their animals may have produced the changes thought by them due to thymus deprivation.

The work of several investigators of about this time must be briefly mentioned. Paton[32] concluded from work on the guinea pig that in this animal the thymus and testes each stimulated growth independently. Halnan and Marshall[33] failed to confirm this work. Lucien and Parisot[34] showed in thymectomized young rabbits effects on growth, the bones and the spleen somewhat similar to those of Klose and Vogt. Fulci[35] found that rests of thymic tissue left after incomplete thymectomy undergo histologic regeneration in rabbits, dogs and cats. Magnini[36] reported cachexia and death following thymectomy in very young rats, while there were no symptoms following the operation in older ones. The symptoms and death in his younger animals were prevented if he injected thymus substance. However, in 1914, two years later, his results were disproved by the more careful work of Pappenheimer[37]. His rats, operated at less than three weeks of age and later proved to be entirely thymus-free, showed no changes whatever.

In spite of Pappenheimer's work just described, Flesch[38] published in 1915 (from the same clinic in Frankfort where Klose had worked) results of experiments on the rat in which he proved by somewhat liberal interpretations that the thymus is essential to life in the rat.

The disproof of earlier work continued. Renton and Robertson[39], after negative results on guinea pigs and rabbits, performed further very important experiments in the dog, reported in 1916. Their thymectomized animals underwent a series of changes very similar to the profound disturbances reported by Klose and Vogt. However, these changes were present to an equal extent in their control animals. Moreover the animals—operated and control—which developed the severest symptoms were those which had been allowed the least exercise.

Following the work of Park[40] in 1917 which simply reports the impracticability of thymus experimentation on the guinea pig we come to the excellent and important studies of Park and McClure on thymectomy in dogs. The importance and completeness of their work may be judged from the fact that since its publication in 1918 there has been almost no further attempt at thymus experimentation by operative removal. Park and McClure[18] began with an exhaustive and critical study of all the work of their predecessors. They then thymectomized seventy-five controlled dogs, using the standard method of dividing the sternum in the midline. They examined serial sections of the tissues from the animals at autopsy to prove the completeness of extirpation. They observed their animals with regard to effects of thymectomy on life, on the hair, teeth, contour of the body, muscular development, strength, activity, appetite, the bones and the organs of internal secretion. The results were absolutely negative in any of these respects with two very minor exceptions. They declare that a very small percentage of their animals showed changes indicating that the possibility of retarded development and delayed closure of epiphyses can not be excluded absolutely. Also they admit that well marked changes in the organs of internal secretion might

have ocurred in the period immediately following thymectomy which was not covered by their experiments.

A review of literature similar to that given by Park and McClure was published by Blatz[41] in the following year. Though he does not mention their work his conclusions are similar. Blatz also took up the work on the feeding of thymus extract done by Gudernatch[42], Uhlenhuth[43], Hoskins[44], and Swingle[45]. From a summary of all the literature on the relation between the thymus and the other organs of internal secretion Blatz could only conclude that "the only relation worthy of consideration is that between thymus and testis . . . . but more evidence is necessary to make this inter-relation conclusive."

For the decade from the publication by Park and McClure to the present, practically all the work concerns the feeding or injection of thymus substance, or the removal of other organs with subsequent study of the effect on the thymus. For example, Downs and Eddy[46] injected into young rabbits a large number of increasing doses of thymus extract, killing them at the end of the period. The results were a slight decrease in body weight, increase in weight of thyroid and spleen, and decrease in that of thymus.

Romeis[47] at first reported in 1921 that he could transform weak and deformed tadpoles into healthy normal ones by feeding with an extract of calves' thymus, but in 1926 published further work under changed conditions, which showed more or less opposite results. In these latter animals—tadpoles and rats—feeding of thymus alone caused restricted growth, development of abnormalities, smaller bones, hypoplasia of thymus and lymph glands, and marked testicular hypoplasia. These changes did not occur if a high vitamine diet was fed with the thymus. Demel[48] reported that, although thymus feeding produced no changes, the implantation of the gland into young rats caused more rapid growth of bones and general maturity of the animals.

Riddle[49] has published three reports on the thymus in pigeons, which confirm Soli's earlier results of extirpation of the gland in the hen. Riddle found that pigeons which layed soft-shelled eggs—and which were later proved at autopsy to have very much involuted thymus glands—could be made to lay normal eggs by thymus feeding. He suggests that the thymus is not essential to individual life, but by assisting in the formation of proper egg coverings is essential to the life of the race. It is puzzling that he finds thymus involution in birds beginning normally three months before the egg-laying peirod.

The interesting experiments of Jaffe[50] on the effect of suprarenalectomy on the thymus in the rat, were exactly confirmed by those of Marine, Manley and Bauman[51] in 1924. They included also the effects of thyroidectomy, gonadectomy, and splenectomy on the thymus of the rabbit. Their results—which are most important—may be condensed as follows: 1. Thyroidectomy hastens while gonadectomy delays thymus involution. 2. Suprarenalectomy not only delays involution of thymus and lymphoid, but may cause their regeneration. Thyroidectomy prevents this reaction, even after combined suprerenalectomy and gonadectomy. 3. Suprarenalectomy and gonadectomy combined are a more powerful stimulus to thymus and lymphoid regeneration than either of these alone. This regeneration persists in the rabbit until regeneration of interrenal glandular tissue corrects the physiological defect. The syndrome thus experimentally produced resembles status thymicolymphaticus in children, and is believed to depend on a partial loss of interrenal and sex glands rather than of chromaffin tissue. (The interrenal tissue in the rabbit is analogous to the cortical part of the adrenals in man.) 4. The thymic and lymphoid hyperplasias of childhood are believed to be manifestations of a functional underdevelopment of the interrenal and sex glands of varying intensity.

This represents perhaps the most significant of the later studies. There are a few other reports yet to be mentioned, including studies of thymus substance in relation to muscle tissue. Scheer[52] found that an emulsion of thymus added to muscle cells causes a hydration of the cells similar to the action reported by Funk for his growth vitamine. Held[53] found that injection of thymus extract was a stimulus to fatigued muscle in dogs. Scheer[54] later reported that hypervitaminosis in rats produced greatly enlarged thymus glands, and suggested that a too high vitamine diet may be the cause of status thymico-lymphaticus in children. A further interesting work of Scheer and Bechdolt[55] showed that tadpoles in water containing thymus extract quickly succumbed to an increased alkalinity of the water, but were able to withstand a considerable acidity. But in the presence of thyroid extract acidity was quickly fatal while alkalinity was not. The

two glands would then seem to be of opposite nature in a bio-chemical sense.

Another recent experimenter on the relationship between these two glands was Krizenecky[56]. He found that pigeons made hyperthyroid by feeding with thyroid extract lost weight rapidly, while others made hyperthymic in a like manner lost weight slowly. If he then fed his hyperthymic birds with thyroid as well, they lost only slightly more weight than the purely hyperthymic birds did. From this he concluded that there is an antagonistic action of thymus and thyroid on body weight.

There has been one further study on the effect of thymus on bone fracture healing. Glaessner and Hass[57] reported, with very few details, experiments on human cases and on cats. In cats (number of cases not stated), and in men (two cases), they found that a more rapid callus formation followed the injection of thymus extracts. Also, in artificial fractures in cats, thymus extract produced more rapid healing than parathyroid substance.

To draw any certain conclusions from all of this experimentation requires that much of the extirpation work be disregarded. Time and again there appears in these publications work which disproves that of preceding writers, or which is improperly interpreted. In short, the only answers which the results up to and including those of Park and McClure give to the question, "What is the function of the thymus?", are as follows: First, the gland seems important in birds in providing proper inorganic salts for the shells of eggs. Second, there is a bare possibility that it aids in the formation of bone. Third, it may be interrelated with the testes and other glands of internal secretion.

The results of experiments since that time show certain further facts. Implantation and feeding of thymus produce more rapid bone growth and stimulate callus formation.

Feeding of thymus alone causes testicular hypoplasia, thymectomy perhaps causes testicular hyperplasia, and gonadectomy delays thymus involution—a combination of facts which would seem to indicate an antagonizing action between these two.

Injection of thymus substance causes slight thyroid enlargement, thymectomy causes thyroid hypoplasia, and thyroidectomy hastens thymic involution. This would indicate an antagonism though of a different type. One bio-chemical experiment has also shown an antagonism of these two glands.

Suprarenalectomy causes thymic (and lymphoid) hyperplasia, which continues until increased interrenal tissue function counteracts it. As the interrenal tissue is analogous to the adrenal cortex in man, it appears that there is a third balance between adrenal cortex, thymus, and lymphoid tissue.

The thymus becomes hyperplastic after a diet too high in vitamines.

Thymus extract causes hydration of muscle cells, and acts to decrease muscle fatigue.

From these confusing facts, one final conclusion may be drawn—that the function of the thymus gland has not yet been made entirely clear, and that there is need for much further experimentation before it will be.

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THE CLINICAL ASPECTS OF DISEASES OF THE THYMUS GLAND IN CHILDHOOD

W. C. C. Cole, M. D.*
DETROIT, MICHIGAN

It is the purpose of this paper to discuss the clinical aspects of diseases of the thymus gland and to attempt to evaluate their importance in pediatric practice.

This is by no means a new subject. Practically, as long as anything at all has been known about the thymus, its possible relationship to clinical phenomena has been variously speculated upon. Ruhrah has called attention to a report by Plater in 1614, of a child who died, supposedly, from thymic suffocation. This is so striking in its similarity and shows so few points of difference from current reports that it is worth quoting. "The son of Marcus Peresius, five months of age, well nourished, with no previous illness, suddenly died from difficult breathing, suffocation. As the father had previously lost two sons from the same malady, and being desirous of knowing the cause, we opened the chest, at his request. We found the gland in the region of the throat as a large protruding tumor, one ounce in weight, spongy, fleshy and pendant, replete with veins, adherent by membranes to the largest ascending vessels adjacent to the throat; these being filled with blood and flowing into the struma, dilated it to such an extent that it compressed the blood vessels in the locality; in which manner I concluded the child was then suffocated."

Kopp, in 1824, was the first to describe symptoms of stridor as due to pressure of the thymus under the name of thymic asthma, but his work was largely refuted by Friedleben in 1858. This latter work was very exhaustive and concluded that pressure symptoms were impossible from the thymus. This view was generally accepted until the latter part of the nineteenth century.

Our modern interest in the thymus really dates from the work of Paltauf in 1889, at which time he described the condition known as status thymico-lymphaticus. He described certain similar characteristics in a group of young people dying suddenly from apparently insignificant causes, such as bathing, minor trauma, nervous shock, anesthesia, etc. His work aroused a great deal of interest, which has continued in an active form up to the present time. During this forty-year period a great amount of clinical literature has appeared. Much of this consists simply of isolated case reports, and there are very few really scientific considerations of the subject.

Two decided trends of thought are apparent in this literature; that which ascribes any and all symptoms to the thymus gland and associates it with widely varying conditions; and that which denies its importance. The former trend is shown by authors too numerous to mention, while Friedjung in 1900, and Von Sury in 1908, have gone to considerable pains to deny the very existence of thymus pathology. More recently, Boyd, Greenwood and Woods, and Morse have published convincing papers on the negative side of the question.

The heterogenous nature of this literature is very striking and the conclusions drawn by different writers are of such a diverse nature as to make an analysis extremely difficult.

The fairly clear cut syndromes associated with disease of the thyroid, parathyroids, pituitary, gonads, pancreas and adrenals, are absolutely lacking in the case of the thymus.

Because of this lack of definite characteristics, widely varying points of view have developed among clinicians. Some strongly believe that the thymus is respon-

* Dr. Wyman C. C. Cole is a graduate of the University of Minnesota, B. S. 1916; M. D. 1918. He spent two years in Post-Graduate work in Pediatrics at the University of Minnesota, and has limited his work to pediatrics during his ten years practice in Detroit.

sible for numerous commonly noted symptoms; others as emphatically reject it as a cause of disease; while the majority are quite uncertain as to its true clinical importance; hence this present discussion.

Before taking up the clinical phases of this question, certain points in anatomy and pathology, which have a direct bearing, should be briefly mentioned. A great deal of disagreement has prevailed upon the ability of the thymus to produce pressure symptoms. Probably the chief source of discussion and error has been the matter of determining the size of the normal thymus at different ages and under different conditions of health. This has recently been carefully studied by Scammon and Boyd elaborating upon the slightly earlier work of Hammar. These authors have pointed out that involution of the thymus occurs from two causes, age involution, and "accidental" involution. The latter occurs during acute illness and nutritional disturbances, and frequently develops with surprising rapidity and to a remarkable degree. This factor has not been adequately considered in determining standards of size in earlier works. Scammon has collected a series of 1,074 children who died from some adequate pathologic cause other than possible thymus disease, within 24 hours of the onset, and has established a normal curve.

He shows that the newborn's thymus weighs about 14 grams and that from that point steady increase in size up to about 35 grams takes place until the advent of puberty, when a gradual involution begins. Variations considerably above this normal have been observed by Boyd in children showing no evidence of thymus disease, with numerous glands over 40 grams in the first few years of life.

Another interesting point brought out by Scammon is the parallelism between thymus growth and involution and general lymphatic growth and involution. His work shows that these structures follow identical curves both in health and disease, which is a strong argument for the lymphoid character of the gland.

Pathologic changes in the thymus, aside from neoplasms and simple hyperplasia, have never been definitely demonstrated.

As to the physiology of the thymus, absolutely nothing beyond the stage of hypothesis is available. It has been linked in one way or another with many different functions, but almost all research of a scientific nature has given negative results. That it is not necessary to life has been proved, but that it has definite function seems equally certain.

Disease of the thymus can be classified under four headings:

1. New growths.
2. Status thymico-lymphaticus.
3. Simple hyperplasia.
4. Disturbances of function.

Primary neoplasms of the thymus are quite rare, but are occasionally seen. They are usually sarcomas. The chief point of interest to us is that they frequently attain considerable size, extending both into the neck and mediastinum before producing serious respiratory or cardiac symptoms. One cannot help comparing the effects of these large, firm tumors with the supposed effects of the soft and much smaller hyperplastic glands.

The clinical picture of status-thymico-lymphaticus as described by Paltauf has not been materially altered by more recent writers. This is described as essentially a condition of young adult life and is characterized by certain physical traits, such as aesthenic habitus, pale delicate skin, scanty hair of feminine distribution, and rounded, smooth limbs. The patients are easily fatigued and are said to show an increased susceptibility to infections, especially meningitis, diphtheria and tuberculosis. They frequently are nervous and emotionally unstable, and according to some writers are commonly alcoholics and degenerates. At the Bellevue Hospital in New York, it is estimated that about 10 per cent of all autopsy patients present this syndrome, but that 22 to 25 per cent of the alcoholics, drug addicts, insane, epileptics and other degenerates belong to this group. At autopsy, in addition to the points noted, is found a general hyperplasia of all lymphatic structures, especially the mesenteric lymph glands, the thymus and the spleen. Hypoplasia of the aorta and cerebral vessels and of some of the more important viscera are also characteristic. Sudden death from apparently trivial causes is supposed to occur at times among this group of patients. This has especially been noted during swimming, following minor trauma, such as hypodermic injections, during anesthesia, and associated with sudden emotional states. The condition is seldom recognized before puberty, which would indeed be very difficult, since the pathology is supposed to be a persistence of normal infantile conditions into adult life. The most that could be determined in childhood would be an

excessive lymphoid hyperplasia, the characteristic hypoplastic conditions so definite in the adult not having had time to develop.

Death in these cases is not due to any mechanical effects of the thymus, but supposedly to disturbances in function or to intoxication. That the thymus plays any essential role in the syndrome is not maintained even by the most enthusiastic writers on the subject, the opinion being that it is only a part of the picture. It is interesting to note that the weights of most of the thymus glands taken from these cases fall within the limits of normal established by Scammon and Boyd. At least, it must be admitted that the entire syndrome is rather vague and broad in its scope. At the same time, the existence of such a picture has been noted by so many competent clinicians and pathologists that there can be little doubt that it occurs, but any relation to the thymus is extremely doubtful.

Simple hyperplasia of the thymus is the condition in which we are chiefly interested, because that is what is usually meant by thymus disease in children. The importance of this has been greatly emphasized in the last ten to fifteen years, and it has been called upon to explain numerous symptoms, especially in early infancy. The most dramatic of these symptoms is sudden death. A supposedly healthy child is found dead in bed. At autopsy nothing is found abnormal, except what in the opinion of the pathologist is an enlarged thymus. Or a child may die in the course of an anesthetic, during a convulsion, or following the injection of horse serum, with the same post mortem result. In this way the physician's conscience is relieved and the parents appeased, although the spirit of true scientific investigation may be offended. To quote from Warthin, writing on this subject in 1909, "In the case of infants found dead in bed the suspicion of 'overlying', either accidental or intentional, has been quieted by a diagnosis of lymphatic constitution, and the same diagnosis has probably been given somewhat hastily and upon inadequate grounds in explanation of sudden death in unexplained or suspicious circumstances."

More commonly, infants showing varying degrees and forms of stridor; cyanosis, either occurring in attacks or as a constant slight blueness about the mouth; dyspnoea; choking spells; or periods of apnea, are diagnosed as having enlarged thymus glands. Sometimes, even more general symptoms are ascribed to this condition, such as irritability, increased susceptibility to infection, malnutrition, and a pale, pasty appearance of the patient.

If, in addition to these symptoms, the X-ray of the child's chest shows what the roentgenologist considers a widening of the thymic shadow, the diagnosis of enlarged thymus seems manifest. Especially convincing does the diagnosis appear, if after a series of deep X-ray treatments, the child becomes better and the symptoms disappear.

So common has the diagnosis of enlarged thymus become with some physicians that the possibility of its presence has been extended into the field of preventive medicine, so that in certain hospitals an X-ray of the chest is taken of every child to be given an anesthetic and of every new-born baby. In many cases where there have been absolutely no symptoms, but where there has been an apparent increase in the X-ray shadow, important operations have been postponed until deep therapy had been employed, and in a great number of new-borns who were perfectly healthy to all outward appearances the same procedure has been carried out. A prominent Michigan obstetrician has reported that in a series of his newborns enlarged thymuses occurred in 57 per cent of the cases. It is hard to believe that more than half of newborn babies arrive in the world with a definite pathologic condition.

Disturbances in the function of the thymus are, of course, entirely in the realm of hypothesis, since our knowledge of its physiology is still in the same state. Nevertheless, some writers have attributed sudden death and other symptoms to thymic dysfunction, either with or without hyperplasia. As Morse has pointed out, the symptoms in these cases are much more suggestive of adrenal insufficiency, of which we know a little, than of excessive thymus function, of which we know nothing.

In considering the differential diagnosis of enlarged thymus there are many things to be studied. There are many things capable of producing sudden death in early life which leave little for the pathologist to find at autopsy. Infants react so much more quickly and more violently to various conditions than do older individuals, that a fatal result may ensue before other symptoms or marked pathologic changes have developed. Overwhelming infections, sudden metabolic disturbances, anaphylaxis and a host of possible allergic reactions, endocrine dysfunctions, acute pois-

oning, and electrocution are some of the conditions capable of producing sudden death without leaving visible traces. Certainly they are all as rational as "thymic death," simply because no other explanation can be found and the thymus looks large.

Stridor, dyspnea and choking are much more likely to be produced by adenoids or other nasal obstructions, by adenitis, by defective development of the mandibulary arch, by abnormal softness of the cartilage of the larynx or epiglottis, by congenital cysts, by papillomas of the larynx, by defects of ennervation of the laryngeal muscles, and by inflammatory conditions within the larynx. Spells of cyanosis should cause a search for heart disease, atelectasis, or cerebral lesions, while a slight cyanosis about the mouth seems to be normal in many young infants when they are at rest. Periods of apnea certainly call for care in eliminating central nervous system trouble. An apprehensive appearance or conformation to any particular physical habitus is much too vague to be of any diagnostic importance in infancy.

Physical examination of the chest is of little value in determining the presence of an enlarged thymus. Very large glands should be palpable in the episternal notch, but accurate percussion is very difficult. When one considers how little change is produced in the percussion note of an infant's chest by large areas of pneumonia and considerable collections of fluid, it is evident that a mass weighing twenty to thirty grams lying in the mediastinum will be hard to define by percussion. Some physicians feel that they can percuss the thymus with considerable accuracy, but it is certain that the average physician cannot. It seems likely that if the same skill were shown in all of the phases of physical examinations and observation which is manifested by those who claim proficiency in percussing the thymus, that in most cases other conditions would be found to explain the symptoms.

Probably the X-ray is chiefly responsible for the great frequency with which enlarged thymus has been diagnosed in recent years. It is easy of application and tangible in its result, but exceedingly difficult in its interpretation. The variations which are within normal limits are hard to define. The changes in the shadow due to respiration are so marked as to give entirely opposite impressions at the different phases. Differences in the size and position of the heart, of the hilus lymph nodes and other mediastinal structures, and even intra-abdominal changes can produce modifications in the thymus shadow. At best the X-ray shows nothing but the width of the gland, whereas, certainly the most important dimension in the production of pressure symptoms is thickness. Even the most expert roentgenologist cannot absolutely make a diagnosis of enlarged thymus from an X-ray film. At the Dallas session of the American Medical Association in 1927, DeBuys, Samuel and Borne, appearing before the section of Roentgenology and reporting a series of cases which they considered to have enlarged thymuses, made the following statement: "Up to the present, we have been unable to arrive at a definite standard as to the size, shape and position of the gland causing symptoms, some patients having all the effects of hyperfunctioning thymus, and on examination showing only a very slight enlargement, while other cases in the series, with marked enlargement of the gland, show no clinical manifestations." They conclude that the opinion of the man reading the plates as to whether the shadow is too large or not is the only criterion. In the discussion of this paper no issue was taken on this point, although the foremost X-ray men of the nation were present. From our personal experience we feel that the X-ray is of practically negligible importance in diagnosing enlargement of the thymus.

The diagnosis of thymic death is frequently made at autopsy when other conditions to explain the death are not found. Probably the chief source of error here has been the misunderstanding of what the normal thymus should be. Pathologists are accustomed to doing post mortems on children who have been sick for some time, and as has been previously pointed out, rapid involution of the thymus takes place during illness, so that the average pathologist has an erroneous impression as to its normal size. Boyd has shown that glands of forty and fifty grams are common in normal children dying accidental deaths, while many pathologists consider a gland over twenty grams abnormal. In many of the reported cases the gland was not even weighed, the pathologist merely stating that in his opinion it was enlarged. Pathologists in general seem to have the point of view that they must find a cause of death. A clinician will often be forced to say, "I don't know why this patient is sick," but a pathologist seldom says, "I don't know why this patient died;" although such must often be the case. So,

when in doubt, the diagnosis of thymic death is made.

In the early experience of this writer, the diagnosis of enlarged thymus was often made, although always with a dissatisfied feeling. Later, it became evident that many cases formerly so classified were due to other conditions until we began to seriously doubt the very existence of such a disease. During the last six years we have accumulated records in our office of over 15,000 Detroit children. While the question of thymus disease has been often considered and even made by pathologists at autopsy in certain cases, in looking over these children in retrospect, it is impossible to point to a single one and say absolutely, "this patient had an enlarged or diseased thymus." And there have been very few in which such a diagnosis merited serious consideration.

While it is not possible to deny that such a disease exists, it is our definite impression that as usually made, it is an alibi diagnosis. That is, it is made as a substitute for careful observation and thorough study. In most cases an adequate explanation will be found if searched for. Certainly the burden of proof rests upon those who make the diagnosis.

In this connection there is one point which should be mentioned in regard to X-ray therapy. It seems like a very grave responsibility for anyone to subject a newborn or small infant to powerful, deep X-ray therapy on no more evidence than a supposedly widened thymus shadow. The possibility of injury to the thyroid, to the chromaffin tissues, to the myocardium, to other mediastinal contents, or even to the thymus itself, is so great as to make this a serious undertaking. We have observed one child with congenital stridor who had received a large amount of X-ray therapy which later came to autopsy and showed an extensive X-ray myocarditis. Moreover, the effects of such treatment may not be known until adult life is reached. We cannot deprecate too strongly the routine X-ray treatment of symptomless infants wholly upon the basis of an X-ray film.

In conclusion, we have attempted to discuss the various clinical aspects of the thymus gland as they apply to children. In our opinion there is exceedingly little evidence to show that the thymus plays any pathologic role. Certainly, it is so rare as to be practically negligible in its importance in pediatric practice.

It is an interesting point that many outstanding clinicians, who formerly felt that thymus disease was an important condition in childhood, have recently announced a change in their point of view.

EIJKMAN, HOPKINS SHARE NOBEL PRIZE IN MEDICINE

Two men who gave to the world the earliest knowledge of the all-important vitamins, Prof. Christian Eijkman of the University of Utrecht in Holland and Sir Frederick Gowland Hopkins, professor of biochemistry at the University of Cambridge, England, have been awarded the 1929 Nobel Prize in medicine.

Prof. Eijkman was the first man to produce experimentally a disease of dietary origin. In 1889, when director of the hygienic laboratory at Batavia, Dutch East Indies, he succeeded in producing polyneuritis in fowl by feeding them a diet consisting exclusively of completely polished rice. He had previously noted that this disease resembled closely the disease beri-beri occurring in human beings. In both the human and fowl disease, the nerves show the same degeneration, and the symptoms are very familiar. In 1921 Prof. Eijkman was made a foreign associate member of the National Academy of Sciences here.

Professor Hopkins, in 1906, first demonstrated that an accessory food substance besides proteins, fats and carbohydrates was necessary for growth, reproduction and maintenance of life in animals. Since then he has done considerable research on the nature of these accessory substances, which we know by the name of vitamins. Professor Hopkins has been called discoverer of the vitamins.—Science Service.

STUDY VITAL ORGANS WITH X-RAY MOVIES

A normal human lung rids itself of foreign material by means of a peculiar rhythmic motion of the bronchial tubes, Dr. H. A. Jarre of Detroit told members of the Radiological Society of North America at the Toronto meeting. This discovery was made with the aid of an X-ray motion picture camera.

"The pictures we take are slow motion because the organic movement in the body will only tolerate a limited amount of X-ray energy," said Dr. Jarre in explaining the new machine, which is to be called the Cin-Ex camera. The pictures are taken at the rate of one to four seconds, while the regular picture camera takes sixteen exposures per second.

The bodily organs which have been studied most intensively with the new camera are the bronchial tubes, kidneys, heart and large blood vessels, thymus gland, and stomach and intestines. An interesting cyclic motion of the kidneys was observed. Dr. Jarre reported that he and his associates discovered a peculiar rhythmic motion phenomenon of the bronchial tubes during breathing "so that in a normal human lung foreign materials and excretions as well as air are expelled by these movements alone."—Science Service.

PRESENT CONCEPTS OF ENLARGED THYMUS AND STATUS THYMICO-LYMPHATICUS—A REVIEW OF A DECADE'S EXPERIENCE*

M. COOPERSTOCK, M. D.**
ANN ARBOR, MICHIGAN

The question of thymic enlargement and status thymico-lymphaticus has been a prolific source of controversy for many decades. The continual appearance of new and frequently divergent ideas has served only to make difficult the formulation of an harmonious and clear-cut conception. In an attempt to arrive at a satisfactory understanding of a much-debated question, it would seem valuable to reappraise accumulated experience in order to determine whether certain beliefs that have been held can be reaffirmed or to what extent they might need revision. With this in mind a review of a decade's experience with these conditions in the Pediatric Service at the University hospital was attempted.

In the present study 335 available case records of enlarged thymus since 1920, with and without clinical manifestations, were reviewed, this series including a group of 25 necropsy cases. In addition, 34 cases of pylorospasm and pyloric stenosis were studied for their possible relationship to enlarged thymus and status thymico-lymphaticus. The diagnosis of the cases of enlarged thymus without symptoms, numbering 248, was made on the basis of roentgenological evidence. Sixty-one cases had such symptoms as cyanosis, dyspnea, breath-holding, stridor, dysphagia, cough, and convulsions; all but six of this group had confirmatory roentgen-ray evidence of enlarged thymus.

INCIDENCE

There seems to be considerable discrepancy as to the incidence of enlarged thymus without symptoms. In 1922, Greenthal[1], studying a series of 2,000 consecutive admissions to the Pediatric Service at the University hospital, found that thymic enlargement was diagnosed in 90 patients (4.5 per cent). Eighty-seven cases gave neither history nor symptoms of thymic involvement. Of the series of patients who had roentgen studies of the thorax, enlargement of the thymus was noted in 25.6 per cent. Blackfan and Little[2] found roentgen-ray evidence of enlarged thymus in 48 per cent in a series of 60 infants. Liss[3], in a series of 119 patients, found that 42 per cent at birth showed an enlarged thymus. On the other hand, Perkins[4], in a roentgen-ray study of 500 cases, found only 25, or 5 per cent, with definite thymic enlargement. Several explanations for this variation can be offered. First, this discrepancy seems to be due to the wide variation in the age of the groups studied. In general, the incidence of thymic enlargement, as determined by roentgenography, seems to follow the standards established by anatomical studies. The younger the age of the group studied, the greater the incidence of thymic enlargement. Secondly, the type of cases studied will sometimes influence the incidence of thymic enlargement. As Greenthal[1] has pointed out, patients with congenital defects and malformations are more prone to have thymic enlargement than are other patients. In his series of 90 patients, 33 (39.6 per cent) had such conditions. In this present series of 335 cases, 112 (33.4 per cent) had congenital defects or malformations, 98 (29.3 per cent) of which were harelip and cleft palate cases. One can readily appreciate how a reported incidence can be influenced by certain types of cases gravitating towards a particular clinic, such as the unusually large number of patients with harelip and cleft palate which we see at the University clinic. As regards thymic enlargement with symptoms, the incidence undoubtedly is much smaller as compared with that of enlarged thymus without symptoms. In the present series the ratio was approximately one to four.

RELATION OF ENLARGED THYMUS TO STATUS THYMICO-LYMPHATICUS

In the literature, the consideration of enlargement or hyperplasia of the thymus as a separate condition is a common one. Yet, as such, divorced from its usual association with the thymico-lymphatic constitution, it seems to be a relatively infrequent condition. Warthin[5] states that no line of separation can be drawn between the occurrence of thymic hyperplasia as a separate condition and that associated with

* Read before the Pediatric Section, Michigan State Medical Society Meeting, Jackson, Michigan, September 19th, 1929.

**Moses Cooperstock, B. A., Yale College, 1923. M. D., Medical School, Yale University, 1926.
Present Status—Instructor, Department of Pediatrics and Infectious Diseases, Medical School, University of Michigan, Ann Arbor, Michigan.

hyperplasia of the lymph nodes. Indeed, in reviewing all the necropsy cases of thymic enlargement and status thymicolymphaticus in infants and children during the period of the present study, not a single instance was to be found in which thymic hyperplasia was not associated with the general picture of status thymicolymphaticus. In each of the 25 necropsy cases studied, thymic hyperplasia was found together with general lymphatic hyperplasia, associated with exhaustion of the germinal centers, and hypoplasia of the heart, aorta, and adrenals—the anatomical stigmata of the thymico-lymphatic constitution. This seems of interest clinically, for it leads one into an impression that in making a definite diagnosis of thymic enlargement, one is, in all likelihood, recognizing at the same time a definite constitutional anomaly—status thymico-lymphaticus—a designation which then should carry with it the realization of all the attending possibilities in the child for anaphylactic or surgical shock, for diminished resistance to infection, and in general for inadequate adjustment to the ordinary exigencies of its environment.

MECHANISM OF THE PRODUCTION OF THE SO-CALLED THYMIC SYNDROME

It was natural, ever since Plater[6] described the first post-mortem case in 1614, that sudden, dramatic death, associated with the clinical symptoms of suffocation and necropsy evidence of thymic enlargement, should have been regarded as death produced by the mechanical effects of pressure. This conception, save for the exception taken to it by Friedleben[7] went unchallenged up to the latter part of the nineteenth century. At this time, Paltauf[8] formulated his conception of status thymico-lymphaticus, suggesting that the thymus plays only a secondary role. Since then, other theories have been brought forward to indicate that the thymus may not be the sole factor in the production of the clinical picture attributed to thymic enlargement.

From the anatomical point of view, the factor of mechanical pressure in the production of thymic symptoms seems a strong possibility. Enclosed within a space of about 2 c.m. (the so-called critical space of Grawitz) between two unyielding walls, the sternum anteriorly and the vertebral column posteriorly, lies the thymus overlying the anterior surface of the trachea. Other compressible structures are also in close relation to the thymus: the superior vena cava, the left innominate artery, and the recurrent laryngeal nerve. An increase, therefore, in the antero-posterior diameter of the thymus would appear capable of bringing about the symptoms described. Yet, it is curious how infrequently actual evidence of marked pressure by an enlarged thymus on the structures of the superior mediastinal space is observed post-mortem. Of the 25 necropsy cases studied, evidence of tracheal compression was found only in two cases. The instances reported in the literature seem to carry little doubt of tracheal compression by an enlarged thymus. The fact that surgical removal and the reduction in size of the thymus by roentgen therapy may give prompt relief of symptoms lends strength to the view of the mechanical effects of enlarged thymus. Warthin[5] believes that the reason more cases of enlarged thymus do not show evidence of tracheal compression at autopsy can be explained by the disappearance of the signs of compression after death. He cites the experiments of Hedinger[9], who by a special technique was able to demonstrate tracheal compression of the thymus in cases in which the size of the thymus does not exceed the limits of weight and dimension usually regarded as normal. If this is true, then any method that can reveal, in the antemortem state, evidence of encroachment on the mediastinal structures by an enlarged thymus would be of great importance.

Recently, use has been made of lateral roentgenography as a method of determining evidence of enlargement of the thymus in its antero-posterior diameter. In the lateral films that are taken, particular attention is paid to evidence of tracheal compression. In the present series, 78 patients had films taken with the patient in lateral position, in addition to those taken in the usual anteroposterior projection (Table I). Of this number 47, or 60.3 per cent,

TABLE 1

Evidence of Tracheal Encroachment by Enlarged Thymus as Revealed by Lateral Roentgenography

	Number of Cases Studied	Number of Cases Showing Tracheal Encroachment	Number of Cases Showing Enlargement in Both Antero-Posterior and Lateral Projections	Evidence of Thymic Enlargement in Lateral Projection Alone
Cases Without Symptoms	54	29	24	5
Cases With Symptoms	21	15	12	3
Necropsy Cases	3	3	3	—
Total	78	47	39	8

showed evidence of encroachment on the trachea by an enlarged thymus, as evidenced by a decrease in the lumen, deviation or displacement of the trachea. It is interesting to note that the proportion was larger in the group presenting clinical symptoms as compared with that showing no symptoms but only roentgen evidence of thymic enlargement. Only three of the necropsy cases studied had had lateral films taken. All of these showed some evidence of tracheal encroachment. A comparison in these cases of the lateral films and post-mortem findings in an attempt to correlate ante-mortem and post-mortem evidence of tracheal compression does not permit of any exact deductions, since all these cases received roentgen therapy with the probability, therefore, of a consequent reduction in the size of the thymus.

It is simpler to understand the production of symptoms by an apparently obvious local cause. This applies particularly to thymic enlargement and explains why attention has been focused on the thymus in the clinical picture attributed to the mechanical effects of its enlargement. That the question is a much more complex one is indicated not only by the inclusion of thymic enlargement as a feature in status thymico-lymphaticus, but also its association with other constitutional deviations and endocrine defects.

Of great significance is the association by Eppinger[10] of vagotonia with enlarged thymus and status thymico-lymphaticus. He regards vagotonia as a clinical expression of an inferior constitutional make-up and notes the frequency of the occurrence of enlarged thymus and status thymico-lymphaticus in vagotonic individuals. This observation bears still further significance from the post-mortem coincidence of adrenal pathology and status thymico-lymphaticus. Since lymphatic overdevelopment is also an important feature in Czerny's exudative diathesis, and since in the latter condition vagotonic manifestations are frequent, a relationship between enlarged thymus, status thymico-lymphaticus, vagotonia, and the exudative diathesis seems probable.

As regards the relationship of thymic enlargement and vagotonia, Aldrich[11], in a recent clinical analysis, concludes that most of the symptoms regularly attributed to thymic enlargement can be explained as vagotonic phenomena, and that one or two are due to pressure of the gland itself. A large proportion of his cases had evidence of pylorospasm, which is regarded as a clinical manifestation of vagotonia. This association had previously been reported by other observers[12]. As further proof that this association of pylorospasm and thymic enlargement is not merely a casual one, are the reports of cessation of the vomiting of pylorospasm following roentgen treatment for the associated thymic enlargement[13].

Thirty-five cases of pylorospasm and pyloric stenosis occurring within the ten year period selected for study were reviewed; 25 were cases of pylorospasm and 10 pyloric stenosis. Roentgen examination for thymic enlargement was performed on 13 cases, 5 of which showed evidence of enlargement. Three of these 5 cases with evidence of enlarged thymus and pylorospasm also had clinical symptoms of the thymic syndrome. One case of pyloric stenosis with a past history of thymic attacks died with what was believed to be thymic paroxysms, and at necropsy showed a thymico-lymphatic constitution, but no evidence of tracheal obstruction. In the entire series of 370 cases, only 10 were found who had an associated eczema. It is possible that the incidence of vagotonic symptoms in patients with evidence of enlarged thymus would have been larger had this relationship been considered earlier and an especial study made of this point.

Additional clinical evidence of an intimate relationship of adrenal insufficiency and status thymico-lymphaticus is offered by the observation made by MacLean and Sullivan[14] of a pronounced hypoglycemia in three fatal cases of thymic convulsions. In the cases of the present study that came to necropsy, the significant finding of adrenal hyploplasia associated with status thymico-lymphaticus was almost a constant finding, a coincidence which was reported several decades ago by other observers[15].

RELATION OF ENLARGED THYMUS AND STATUS THYMICO-LYMPHATICUS TO ROENTGEN THERAPY

We are accustomed to regard the possibility of surgical shock and sudden death during and following operation in infants and young children with evidence of thymic enlargement as a serious one. In an attempt to minimize any such possibility we have adopted a strict routine of preoperative roentgen therapy of all children under 6 years showing evidence of thymic enlargement. As a result, many roentgenograms have been taken, and a large number of infants and children with enlarged thymus have been treated.

Has the caution and concern with which we have regarded enlarged thymus in infants and young children scheduled for operation been justified by experience? In the present study, only 8 cases of post-operative death could be found among those who had received prophylactic treatment for enlarged thymus. Of these, 5 were harelip and cleft palate cases. Six of the 8 cases mentioned came to autopsy: 5 showed a thymico-lymphatic constitution; the other showed a subarachoid hemorrhage at the base of the brain, icterus neonatorum, and roentgen atrophy of the thymus. This number seems significantly small in comparison with the large number of cases that have undergone surgical procedures over a period of approximately 10 years.

A special study was made of the cases of harelip and cleft palate, since they constitute a large percentage of infants and young children that come to operation in our clinic. This group, in addition, makes an ideal one in the study of the value of prophylactic roentgen ray therapy, since children with congenital malformations are frequently found to have stigmata of the thymico-lymphatic constitution.

Since 1925, 352 cases of harelip and cleft palate had pre-operative roentgenograms taken. Seventy-five, or 21.3 per cent, showed evidence of enlarged thymus. Approximately 200 operations were performed on these 75 cases. There were 13 deaths, or a mortality of 3.7 per cent in the entire group, 6 deaths occurring in the group having enlarged thymus. Five of these (mentioned above) died post-operatively; the sixth was found dead prior to operation.

So far as the effects of treatment of the cases brought to the clinic with actual symptoms are concerned, consistently good results have been obtained. Disregarding those children with thymic enlargement whose death was associated with operations, or whose death could be explained by some obvious different cause, only one case could be found that died in spite of roentgen-ray therapy.

It is difficult to understand how roentgen therapy produces its beneficial effects if one accepts the view that mechanical pressure by an enlarged thymus is the exception rather than the rule. If its beneficial effects are not due primarily to a reduction in the size of the thymus, such as occurs following roentgen-ray treatment, then we have as yet no satisfactory explanation how the therapeutic effect is brought about. But irrespective of one's conception of how the symptoms are produced—and our knowledge at the present time is certainly incomplete—the value of the roentgen therapy is a tangible and outstanding fact.

SUMMARY AND CONCLUSIONS

A review of a decade's experience with enlarged thymus and status thymico-lymphaticus impresses upon one that there is still much to be learned before a satisfying conception of their cause and effects can be achieved.

In the light of the present knowledge, the view of simple mechanical pressure by an enlarged thymus cannot be regarded as the sole factor in the production of the so-called thymic syndrome, although it is conceivable and probable that enlargement, in a mechanical way, does play an important role. Enlargement of the thymus and symptoms attributed to it seem to be the secondary expression of a more fundamental process.

The coincidence of thymic enlargement, status thymico-lymphaticus and adrenal pathology seems of significance and may prove of great importance in the ultimate understanding of the clinical picture associated with enlarged thymus and status thymico-lymphaticus.

In spite of the imperfect state of our present knowledge of enlarged thymus and its associated conditions, the use of roentgen diagnosis and therapy is indispensable.

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CIN-EX CAMERA STUDIES OF THE THYMUS IN INFANTS AND CHILDREN

C. K. HASLEY, M. D.*
R. Q. DeTOMASI, M. D.**
DETROIT, MICHIGAN

The Cin-ex camera recently developed by my associate, Dr. Hans A. Jarre, marks the beginning of a new method of studying the motor functions of internal organs in health as well as in disease. By using this apparatus it is possible to make as many as four X-ray exposures a second on a roll film, but it has been found by trial and error process that two or possibly three exposures per second is sufficiently rapid to record most of the actual movements of the internal organs. In our studies on the thymus gland some were made very rapidly, while others were taken much slower, the average being about five exposures in two seconds.

The roll film is about 20 feet in length, permitting us to record as many as 30 roentgenograms in from 10 to 20 seconds. A few of the films were actually made in 10 seconds. The exposure time is so rapid that the movement of respiration does not even blur any of the finer details of the lung fields. During this rapid examination we have records of the heart in diastole and in systole and of the chest in inspiration and in expiration and in many of the intermediate phases. An analysis of these films, most of which were made in the antero-posterior, a few in the postero-anterior and lateral positions, will follow a little later.

This new method of studying the motor functions has revealed that many of our former X-ray interpretations of pathological change, as based on a single film or a group of films in two or three positions, are nothing more than a physiological motor function, perhaps in a very exaggerated physiological state. Hence, in the light of our new experimental findings we are forced to abolish, as being partially or totally erroneous, some generally accepted fact; and by the same token we are able to prove that some of our preconceived ideas, which have been doubted simply because clinical findings and teachings were more favorable to the old idea, have scientific facts on which to base our new interpretations.

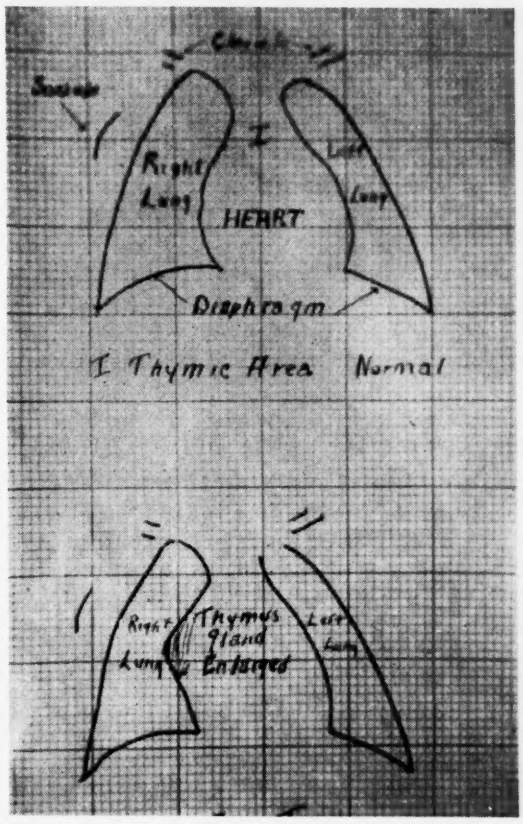


Figure 1.

Figure 1 consists of actual skeletal tracings of the heart mediastinum and lung fields as outlined by the inside of the thoracic cage.

The various structures of Figure 1 are labeled and, given along with Figure 2, explain the grouped skeletal outlines of Figure 3 and 4.

For example, the thymus shadow as shown on one or two or three X-ray films cannot be accepted as indicating the true state of enlargement or hypertrophy and, conversely, a set of films after a single or series of therapeutic X-ray exposures, though the thymic outline is smaller, does not necessarily indicate that the gland has been reduced in size. The Cin-ex camera enables us to obtain the individual roentgenogram so rapidly that every phase of motor movement can be recorded upon a 20 or 30 foot roll film. In fact, in addition to the normal cardiac and respiratory

NOTE:—We are indebted to Dr. Hans A. Jarre for the use of the Cin-ex camera which has made this study possible, as well as to Miss B. Kaiser who helped us secure material for the study.

* Dr. C. K. Hasley graduated from the University of Michigan in 1918. Following his interne service he became an Instructor in Dermatology and later an Instructor in Roentgenology in the University of Michigan. Since July 1st, 1928, he has been associated with Doctors R. H. Stevens and H. A. Jarre, 1429 David Whitney Building, Detroit, Michigan, his practice being limited to X-ray diagnosis, treatment of diseases of the skin and cancer and radium therapy. He is Associated Roentgenologist of Grace Hospital at Detroit, where an extensive and extremely interesting research on the physiology of motor functions is being conducted. This contribution on factors which influence skiagraphic records of the mediastinum and thymus is a preliminary report.

**Dr. R. Q. DeTomasi graduated from the Detroit College of Medicine in 1921. He is engaged in general practice and is a member of the Staff of Grace Hospital.

phases we have attempted to obtain a record of the motor function with the child or infant in forced expiration and inspiration, that is, while the child was crying. To produce such a change in the rate of respiration and cardiac cycle in some of

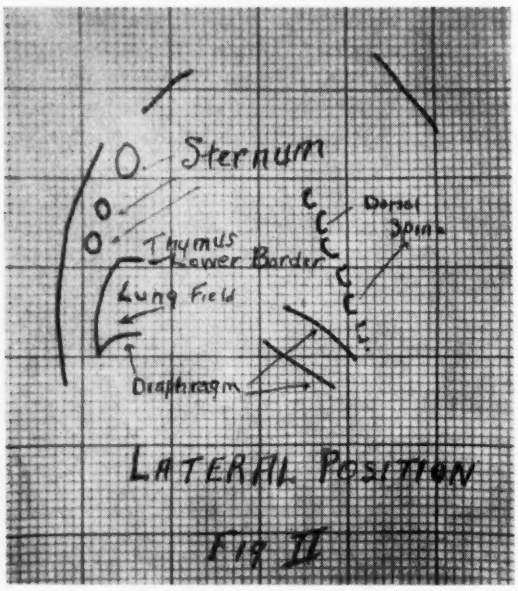


Figure 2.

Figure 2 represents an actual tracing of a film which was made with the infant's right side against the camera. It is a tracing of a lateral exposure. Note the lines which represent the diaphragm as well as the inferior outline of the thymus. Observe how these lines change their relative position in the last six outlines of Figure 4. There is some change in the relative position of the heart, mediastinum and bony landmarks. It is not as striking, however, as in the antero-posterior position.

them it was necessary to place covers on their faces to induce crying so that the desired motor functions could be recorded.

In analyzing the roll film, actual tracings were made of the outline of the interior of the thoracic cage, the mediastinum, heart shadow, diaphragm and some of the bony landmarks of each roentgenogram. Scores of tracings were made of many cases and we were greatly astonished to find that the outline of the heart, mediastinum and thoracic cage is not identical in every detail on any two of the tracings. Some approached similarity while others were greatly unlike. It is from the study of these outlines, particularly the dissimilar ones, that we are learning the true meaning of motor function—a physiological process which we are forced to consider in our interpretations even though pathological conditions may be present.

Formerly, in the routine examination of the thymic gland roentgenologically, not enough attention was paid to this motor phenomenon. It is true, mention has been made of the heart action, respiration, etc., but it has not received the consideration it deserves.

To explain the motor phenomenon, as far as thymic shadows on a serial X-ray film are concerned, we must first consider the regional anatomy; secondly, the physiology of the cardiac cycle and respiration; third, the emotional state of the patient; and fourth, the position of the patient during the examination. The roll films which have given us the most information were made with the patients on their backs, their chins up and the X-ray tube at a distance of 36 inches from the film. The distortion at this distance was practically nil.

Anatomical Considerations: The thymus gland, as we all know, is situated beneath the upper part of the sternum, rising a little into the neck and descending to about the fourth costal cartilage, exceptionally as far as the diaphragm when greatly enlarged. It is surrounded by a fibrous capsule, thickest above where it rests upon the pericardium, and extends over the heart as two flattened lobes which are generally of unequal size. Anatomists believe that the left is usually the larger. From the

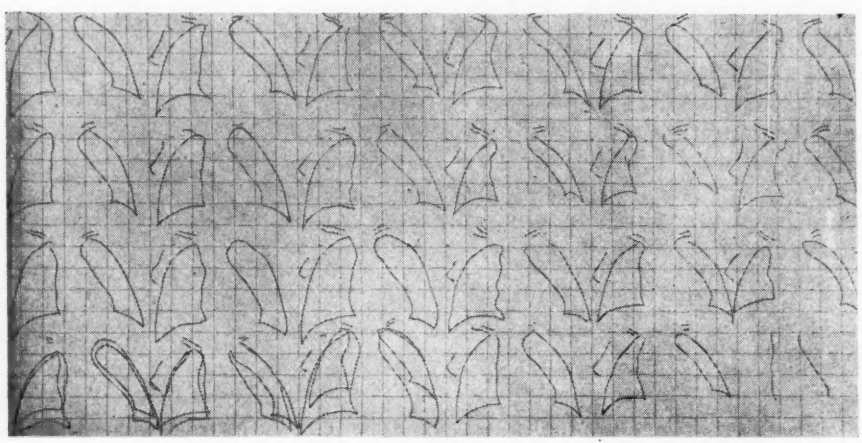


Figure 3.

Figure 3 consists of 27 skeletal tracings from one roll film of a child aged two, who in early infancy, was treated for an enlarged thymus. "Inspiratory-crow" is still present during excitement. We believe that the increased width of the supracardiac mediastinal shadow as shown on some of the films, is secondary to respiratory and circulatory changes. The irregular outline of the right border of the heart on some is due, we believe, to super-imposed shadows of the aorta, superior and inferior cave. The right scapula formed the fixed point in these comparative drawings. Note that the movement of clavicles is slight; and the change in the cardiac and mediastinal outline varies considerably from time to time.

The double tracings are presented for contrast and are selected to show the extremes in the change in heart outline with its relative effect on the thymic shadow.

X-ray literature, one would be forced to conclude that the right is normally the more prominent. This is due to the fact that on many of the films the outline of the heart or superior and inferior venae cavae have been confused with thymic enlargement. Further anatomical studies show that the thymus lies in front of and above the pericardium and against the aorta and the pulmonary arteries after they have emerged from the heart-sac. It is in contact with the large part of the arch of the aorta and is grooved on the posterior surface by the innominate vein and the superior vena cava. Laterally, it extends on each side into the interval between the pericardium and the pleura. The thymus is encased anteriorly by the sternum and the ribs which are part of the thoracic cage, moving only slightly with respiration. Hence, the lower part of the gland which is exposed bears the brunt of the socalled motor change incident to circulatory and respiratory changes.

The physiological heart mechanism in itself is not an uncomplicated one. The diastole, the systole, the gorgement at one time of the heart, the partial constriction at another time, the change in the size of the pulmonary artery, aorta, superior and inferior venae cavae all exert different pressure changes on the thymus gland. The heart mechanism is an ever-changing one. Superimposed upon this is a second motor mechanism, namely, the movement of the thoracic cage and diaphragm in respiration—a motor mechanism running at a different rate of speed than the cardiac mechanism.

Furthermore, both the cardiac and respiratory mechanism are influenced in rate and degree by the emotional status of the patient. Is it any wonder then that scores of tracings from one patient in a serial examination have never in every detail been identical on any two tracings, but are as interesting and unlike as bridge hands? Mathematically scores of combinations are possible.

The fourth consideration, namely, position, has been mentioned previously. When the exposures were made in the antero-posterior position the chin was elevated high enough to produce a little traction on the neck to reduce the movement of the clavicles to a minimum. This position also tends to place the thymic gland as close as possible to the anterior chest wall. The films in the lateral position were made with the right side of the child against the camera.

In the past we have attempted from one or two films to pass judgment on the size of a thymus gland. In the future, serial examinations will be deemed more necessary to determine its average size. We are not attempting to decry single film examinations, but simply trying to point out the superior method of serial examination. A single film really offers much data. Many unsuspected associated pathological changes, such as atelectasis, hilus gland infiltration, fractures from birth injuries and abnormalities in cardiac outline, have been discovered by this method and the routine examination of the chest for possible hidden pathological conditions should be continued in infants and children even though thymic hypertrophy is not as common as once supposed.

Analysis of One of the Films: The film which has given us the most information in our serial study is one which was made of a child of two years who had received, shortly after birth, a series of therapeutic X-ray treatments for a so-called enlarged thymus. The X-ray films on which the diagnosis was based showed increased width of the supracardiac mediastinal shadow and clinically there were symptoms, such as inspiratory stridor and cyanosis, to substantiate thymic en-

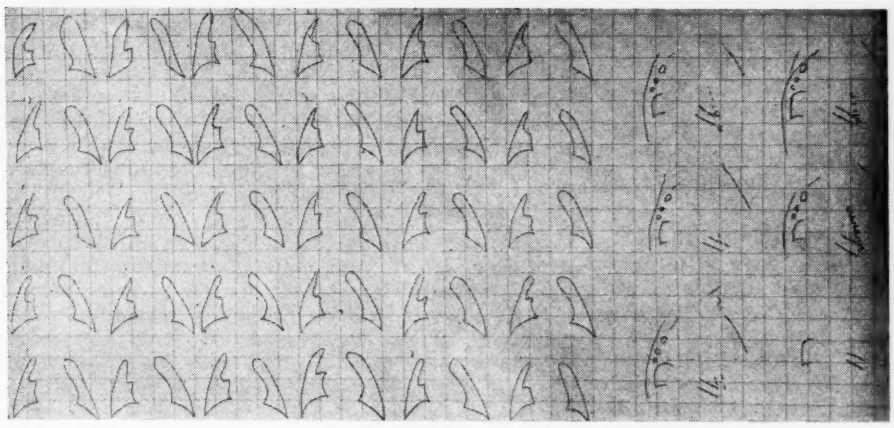
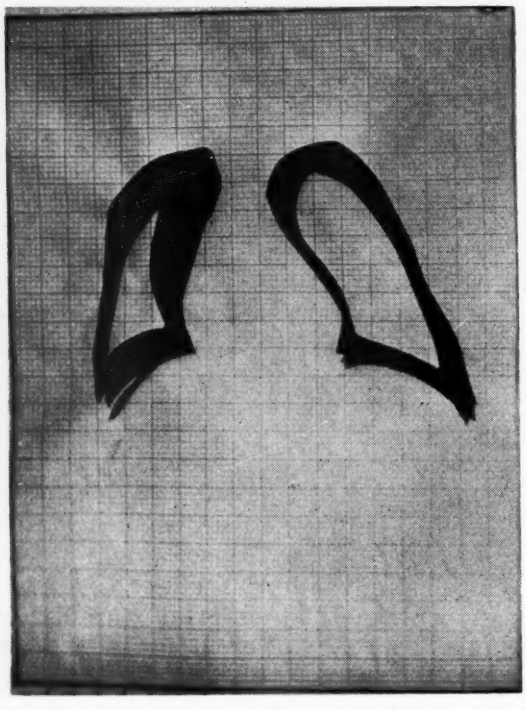


Figure 4.

Figure 4 shows a series of tracings of one case in both the lateral and antero-posterior positions. The constant deformity of the rigght cardiac and mediastinal outline represents, we believe, an enlarged thymic gland.
These films were made when the child was eight days old. There are no cardiac symptoms.

largement. In spite of the therapeutic X-ray treatment the inspiratory stridor persisted, but during the last few months it has lessened somewhat without any recent X-ray treatment. If we selected a single roentgenogram with the heart in diastole from the roll of films taken with the Cin-ex camera and submitted it to any competent roentgenologist, we feel certain he would diagnose an enlarged thymus and recommend that more treatment be given. Another selected roentgenogram with the heart in systole would be interpreted as positively no evidence of thymic enlargement. These same films could be presented to the unsuspecting physician—the former as indicating the size of the thymus before X-ray treatment and the latter to show how much the thymic gland decreased in size following a series of therapeutic exposures. The demonstration of any films termed before and after treatment, unless they represent identically the same phases in the cardiac and respiratory cycle, have, in the light of these new findings, absolutely no significance whatsoever, and we feel chagrined that we, too, have fallen into such pitfalls.



Figur 5.

Silhouette 2 represents a composite tracing of about 100 X-ray films. Note the difference and degree of movement. This case presents the clinical symptoms of an enlarged thymus. It is very probable that some of the symptoms are cardiac in origin.

CONCLUSIONS

1. Serial examinations of the chest are frequently needed to establish a positive diagnosis or to rule out the presence of an enlarged thymus.
2. The enlarged thymus is not as frequent as was once supposed.
3. Some of the respiratory symptoms which have been accepted as indicating thymic enlargement may probably be cardiac in origin.

EVERYBODY GETS SICK ONCE A YEAR, ON AVERAGE

On an average, each person in the country has at least one disabling illness every year, the Committee on the Cost of Medical Care has reported after a survey of various sickness reports compiled by the United States Public Health Service and other organizations.

Men have a disabling sickness about once a year, women about twice and children over twice during the school year. Colds, bronchitis, grippe, influenza and pneumonia are oftenest the cause of these disabling illnesses and cause the longest disability. On the same basis of the number of cases and total time lost digestive disorders and diseases also take a high place.

About 130,000,000 cases of disabling illnesses occur in the United States each year. Adding non-disabling illnesses more than doubles the figure, the committee reported. The 36,000,000 wage earners in the country lose at least 250,000,000 work days per year, and the 24,000,000 school children lose 170,000,000 school days per year. These figures account for only one-half of the total population.

"Authorities have stated that there are at all times approximately 700,000 persons with tuberculosis, 10,000 with pernicious anemia and 110,000 addicted to narcotic drugs," the report said.

"In any one year there are in the United States over one million cases of malaria. Syphilis and gonorrhea at any one time appear to be causing nearly one person per 100 to place himself under the care of a physician. Over 36,000 cases of smallpox were reported in a recent year. While childbearing is not a disease, it does cause a large amount of disability. In 1928 there were nearly 2,000,000 births in the registration area, many of them followed by complications and a considerable number (a larger proportion than in most civilized countries) by death.

"Hospitals for mental and nervous diseases contain over 350,000 patients, and this figure is far below what the total would be if those not hospitalized were included. Of the children now attending school and college, 'over 960,000 will enter a hospital for mental disease at some period in their lives if present rates for first admissions continue.' These figures include only the more serious mental diseases and take no account of the large numbers with lesser mental disturbances.

"Hospitals other than those for nervous and mental diseases contain, on the average, over 350,000 patients at all times. The total in all hospitals on a single day is about 700,000."—Science Service.

THE USE OF X-RAY IN THE TREATMENT AND DIAGNOSIS OF ENLARGED THYMUS

SAMUEL W. DONALDSON, M. D.*
JOHN M. BARNES, M. D.**
ANN ARBOR, MICHIGAN

The anatomical variation in size and shape of the thymus gland was recognized as early as the seventeenth century. The possibility of a thymic death was brought out by Morgagni two hundred and fifty years ago, and clinical signs and symptoms have been noted by clinicians for as long a period. With the advent of satisfactory X-ray examination of the chest it became possible to demonstrate the shadow of the thymus gland, particularly when enlarged. Prior to the introduction of X-ray treatment for enlarged thymus by Lange in 1911, thymectomy or sternal decompression were the only known means of relief. Since then radiation treatment has become the method of choice in handling all cases of hyperplasia of the thymus.

The thymus is a bilobed structure of lymphatic tissue, characterized by the presence of Hassell's corpuscles. It is situated in the upper anterior mediastinum and moulds into its existing shape during the establishment of respiration. In the presence of disproportion between the size of the moulded organ and the cervico-thoracic space pressure may be exerted on the adjacent organs. This is purely mechanical and the result of overcrowding. Variations in size of the thymus occur with age, state of nutrition and in infectious processes. The gland reaches its maximum weight at puberty, but in ratio to body size is largest at birth. Transitory fluctuations in size from circulatory changes may occur during exertion such as crying or struggling.

Certain constitutional types are apparently predisposed to thymic enlargement. Infants of the thymicolymphatic type reveal thymic hyperplasia which may or may not be productive of symptoms. A persistent thymus frequently exists in conjunction with thyroid disturbances, especially in the Basodowian constitution.

Patients with enlarged thymi may be classed in three groups according to the age at which the thymic enlargement becomes clinically important. These are: Early infancy, during the tonsil and adenoid age, and in the third decade accompanying thyroid disturbance. The clinical signs and symptoms indicative of enlargement during early infancy are as follows:

1. Transitory cyanosis often with unconsciousness.
2. Respiratory difficulty.
3. Asthenia.
4. Snuffles.
5. The so-called thymic stridor.
6. Regurgitation.
7. Abnormal sounds during crying and feeding.

The older children of the second group often exhibit one or more of the following indications of the existing conditions:

1. Undernourishment and pallor.
2. Early hypertrophy of the tonsils and adenoids.
3. Any of the symptoms characterizing the condition in infancy.

In the third age group, few if any clinical manifestations of thymic enlargement are present. Symptoms of hyperthyroidism dominate the clinical picture in this group.

The differential diagnosis of an enlarged thymus during the first and second age periods must take into consideration the following conditions: Spasmophilia, congenital heart lesion, atelectasis or early pneumonia, or foreign body in the bronchus. The most exact method of differentiating these conditions is by X-ray examination.

The incidence of thymic enlargement as reported by numerous writers varies widely. Some observers have reported their findings in only the newborn, others have collected cases from infancy to twelve years of age. Some have reported a series of selected cases, such as those showing symptoms. None of these can be compared with the percentages shown in routine examinations. As high as 50 per cent of newborn have been reported as showing an enlarged thymus. The general average, however, is about 15-18 per cent in the newborn and 7 per cent in children from six to ten years.

* Dr. Samuel W. Donaldson graduated from the University of Michigan Medical School, 1916; Medical Department of United States Army, 1917-1920; X-ray Department University of Michigan Hospital, 1921-1922; Radiologist St. Joseph's Mercy Hospital, Ann Arbor, Michigan, since 1923.

**Dr. John M. Barnes graduated from the University of Michigan Medical School, 1924; Medical Department, United States Navy, 1924-1925. At present Assistant Professor, Department of Roentgenology, University of Michigan Hospital.

Another reason for the discrepancy in statistics relative to enlarged thymus is that no standard has yet been established as to the exact limits of normal for a shadow in the upper mediastinum. As pointed out under anatomical considerations it should be emphasized that the proportion between thymic size and available space in the upper mediastinum is of more importance than the actual volume of the gland.

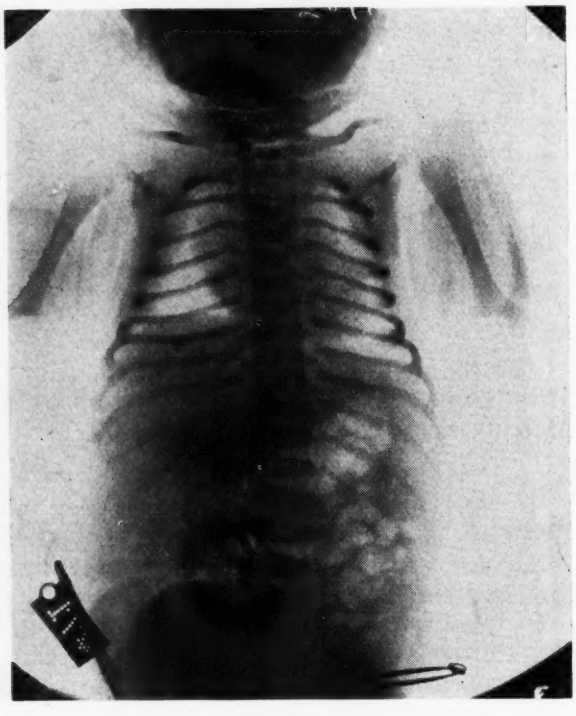


Figure 1 (a)

Anterio-posterior view showing a broad dense upper mediastinal shadow. The lower borders of both lobes of this thymus are distinct.

In this connection it is well to note that various authors are not in perfect agreement as to which of the various factors—mechanical pressure, edema of the mucosa, or nerve influence accompanying tracheo-bronchial node enlargement—play the most important part in the production of thymic symptoms. It is probable that the relative importance of these three factors varies in different cases.

The presence of an enlarged thymus may be suspected on the basis of several associated findings. Geographical location is a factor to be considered. In so-called goitrous sections of the country enlarged thymus appears to be more prevalent; however, a large series of cases demonstrates that mothers with enlarged thyroid do not necessarily have babies with thymic enlargement. Sex, obesity in the parents, and age of the mother apparently play no part. The heavier babies seem to show a slightly larger percentage of enlarged thymi as demonstrated both by clinical and radiographic examinations. The presence of thymic enlargement or history of a thymus in any of the children of a family increases the likelihood of other children in that same family showing a similar condition.

Confirmation of a suspicion aroused by any of the above named findings is furnished by X-ray examinations of the chest. The films must be of good quality and a most accurate interpretation can be made when films are taken in the antero-posterior and lateral projections. There are different technics advocated throughout the country, all serving the purpose of the individual using them. The principal consideration in this connection is the establishment and use of a technic in which the normal is known.

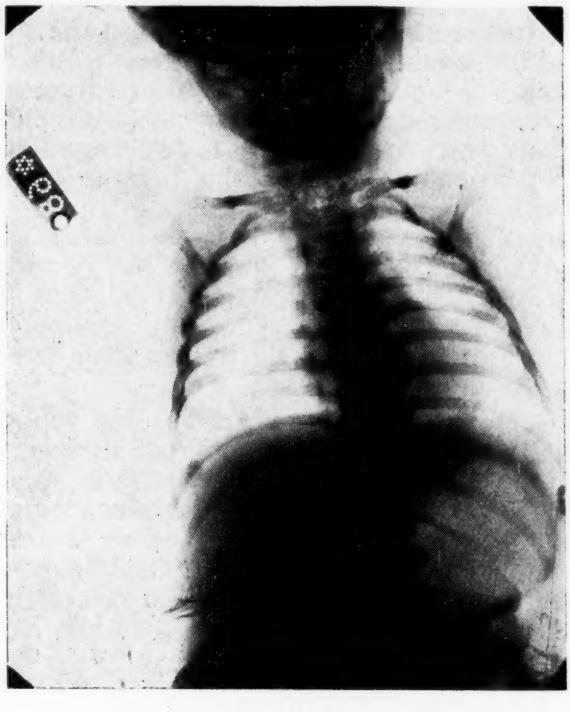


Figure 1 (b)

Anterior-posterior view of same patient after radiation therapy. Note decrease in size of shadow of the thymus.

A widened upper mediastinal shadow, distinct from the great vessels and resting over the base of the heart is strongly suggestive of an enlarged thymus. This shadow may be unilateral or bilateral. Tracheal compression in either projection is definite evidence of mechanical pressure. It is only in the most marked cases that the latter finding of tracheal distortion is present. A shadow more than 60 per cent of the diameter of the chest at the level

of the second rib should be regarded as above the normal size limit.

In this connection it must be emphasized that thymic paroxysms may occur in patients where X-ray evidence is slight. There does not seem to be any constant relationship between the size and shape of the shadow and the severity of the symptoms. Therefore, while films are important in demonstrating the presence or absence of thymic shadow, the clinical symptoms, as previously noted, are necessary in evaluating the urgency of the condition. Neither examination, clinical nor roentgenological, is complete without the other.

Having established the presence of thymic enlargement, the necessity of treatment must be considered. We have two methods of treatment at our disposal; namely, X-ray and radium. Either will produce satisfactory decrease in the size of the gland, but from the standpoint of

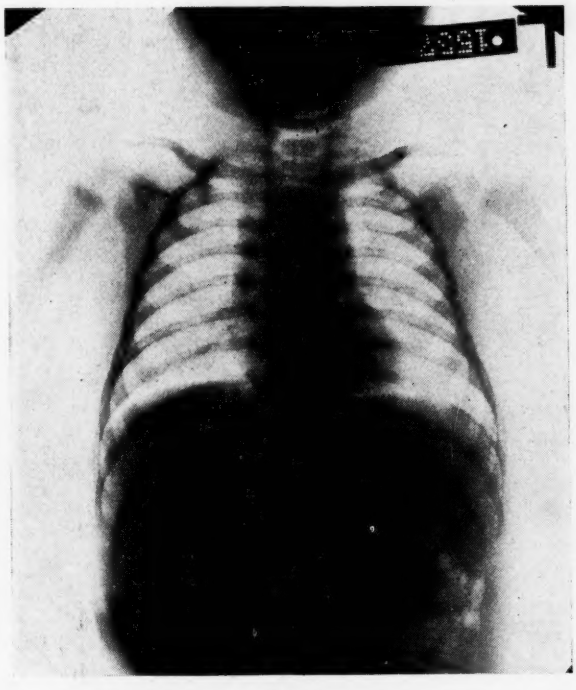


Figure 2
Anterior posterior view showing slight increase in mediastinal shadows—practically normal.

availability, economy and comfort to the patient, X-ray is the method of choice. The patients requiring treatment may be divided into two groups; those having thymic attacks, and those with an enlarged thymus, but without clinical symptoms. From a therapeutic standpoint these groups must be considered separately. In the first group we feel that it is best to administer small doses at from 24-72 hour intervals. The amount of radiation administered at each treatment is about 30r (air value), or about 10 per cent of a mild erythema dose. Filtered radiation is used in all cases. The administration of treatment by interrupted doses is important because of post-radiation swelling, which might be responsible for an alarming exacerbation of symptoms. Even with the small doses used, careful observations made during the 12-24 hour period following radiation will occasionally show a transitory increase in the symptoms. This is

Figure 3 (a)
Lateral view of patient Figure 2, showing posterior enlargement of thymus with deformity and compression of the trachea.

followed by a rapid amelioration of the cyanosis, dyspnea and stridor. In patients showing extreme symptoms it is well to hospitalize the individual in order that emergency measures such as the administration of oxygen or epinephrin may be carried out. We must remember that in many of these cases we are dealing not only with an enlarged thymus, but with a thymico-lymphatic constitution characterized by hypoplastic suprarenals and an unstable blood vascular system. We cannot expect to alter the constitution, but hope to carry the individual through a critical period in order that he may later adjust himself to this constitution.

The number of X-ray treatments required in this group varies with the individual. In most cases three or four treatments suffice. These patients should be followed clinically for at least a year, as in a small percentage there is a regeneration of the gland, and in a still smaller

number, a return of the symptoms. Any future operative procedure in an individual of this type should be preceded by prophylactic radiation of the upper mediastinum.

The second group, those patients with an upper mediastinal shadow, but without symptoms, require a somewhat different type of treatment, depending on the age group into which they fall. If these patients are infants they are considered as

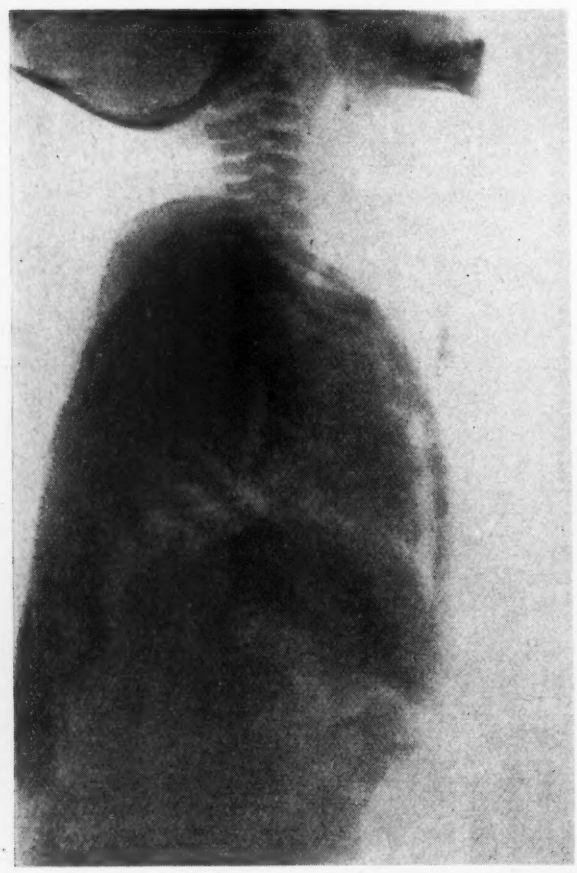


Figure 3 (b)
Lateral view of patient (a) after therapy. Note decrease in size of shadow of the thymus and normal appearance of the trachea.

potential subjects for thymic attacks and are treated in a manner similar to group I. If the patient has reached the tonsil and adenoid age the treatment is not extended over as long a period. Therapy in this latter group of patients is administered as a prophylactic measure and may be classed under preventive medicine. In this connection it would seem that a large number of operations can be postponed with safety until after prophylactic treatment has been administered. This delay is justified by reason of the fact that the individual requiring early tonsillectomy is a poor operative risk from a thymic standpoint. As previously mentioned, thymus enlargement is particularly apt to be associated with the presence of early lymphoid hyperplasia. In this type of individual the margin of surgical safety increases with age. If operation is imperative during early years, pre-operative prophylactic radiation may prevent the occurrence of a thymic tragedy. We feel that surgical procedures may be safely undertaken within 36-48 hours following the completion of treatment.

The initial treatment given to individuals showing no clinical evidence of thymic enlargement is usually somewhat larger than that administered to the patients showing symptoms. Approximately 60r is given at weekly intervals and check-up films are made to determine whether or not there has been any change in the size of the shadow.

A decrease in size of the thymic shadow or diminution in the symptoms following treatment confirms the diagnosis. An un-

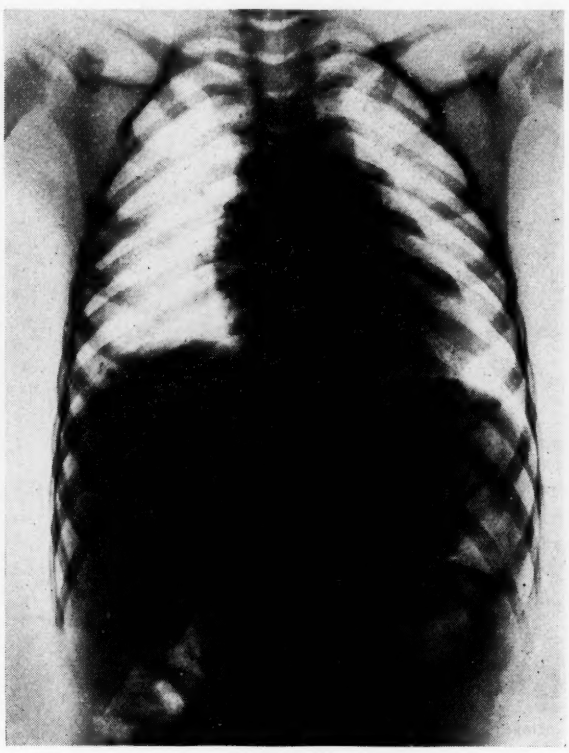


Figure IV (a)
Normal anterior posterior view of the chest of an infant.

diminished shadow persisting after proper treatment indicates that we are not dealing with parenchymal hyperplasia, but with thymic fibrosis or visualized mediastinal vessels. The futility of continued radiation in the latter group is evident.

The most marked decrease in size becomes evident within a week or ten days following one or two treatments. We find that the response of enlarged thymi to

treatment is elicited with smaller doses in infants than in children. This may be explained by the greater maturity of the cell structures in the older group. On the other hand, regeneration of the gland is more apt to occur in infants.

In the third age group in which thymic enlargement is co-incident with thyroid disease, we feel that treatment is indicated whether the thyroid is being treated surgically, medically, or by radiation. The dosage in this last group is somewhat larger than is required in children, for here we are dealing not only with a more mature structure, but with a thicker chest wall.

The treatment of thymus enlargement by radiation is a decidedly satisfactory procedure. True enlargement, with or without symptoms, responds to relatively small doses. We have never found it necessary to use other than a single anterior

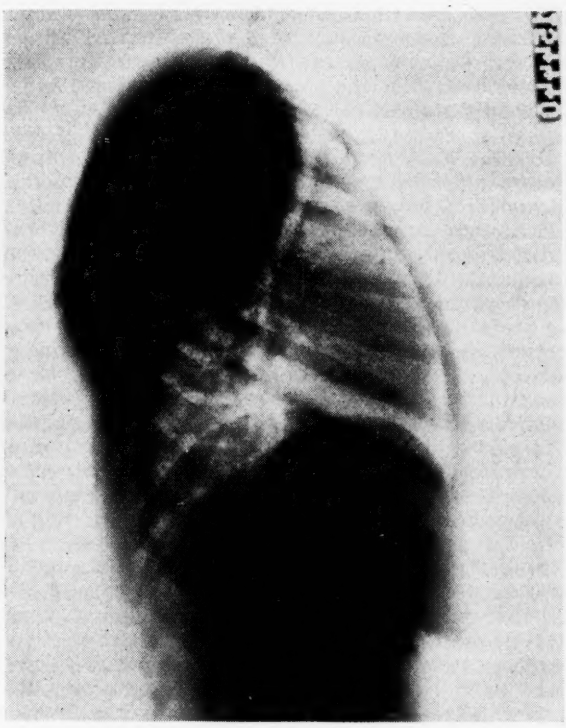


Figure 4 (b)
Normal lateral view of the chest of patient shown in Figure 4 (a).

field of application, and with the methods used we have not noted any immediate ill effects other than those due to post-radiation swelling.

A careful follow-up of over one hundred post-radiation thymic patients treated from five to eight years ago, reveals the fact that while these patients received larger doses than we are administering at present, no ill effects were noted, in either the mental or physical spheres.

DISCUSSION

Dr. D. J. Levy (Detroit): It is interesting and somewhat dismaying to note the complete lack of criteria that we have in estimating the role of the thymus in pediatrics. We lack criteria as to the anatomical norm and as to the X-ray norm of the thymus, although I am sure that Dr. Hasley made a most important contribution here. We don't know the function of the thymus. We are completely out of accord as to the clinical picture produced by thymus pathology, if any, and divergent as to indications for and methods of treatment in these states.

When one considers the almost complete lack of definite information that we have in regard to this organ, one can readily understand why these opposing views are taken in regard to it. As a consequence, one must assume that an honest opinion, based upon thorough clinical study, is entitled to every consideration, no matter which side of the question an individual is inclined to take.

I like the attitude of nihilism that has grown up in regard to the thymus because it has counteracted very materially the opposite tendency which has existed so largely in pediatric thought in recent years. I think we all agree that there has been a tremendous over-emphasis on the role of this gland, an attitude that has been carried almost to a preposterous extreme. Still, one must remember that there is no tissue of the body that is not prone to pathology. There is no tissue of the body that cannot assume abnormal states, and most assuredly we know that a glandular tissue or a lymphoid tissue is one that is prone to hyperplasia and to hypertrophy, and hyperplastic and hypertrophic tissues are prone to dysfunction.

Inasmuch as that is the case, and inasmuch as we don't know the role of this gland whatsoever, it is only safe to assume that in some instances, certainly relatively rare, the gland can assume pathological significance. It is important to know, however, that only a very small percentage of the conditions, which we have attributed to this gland are necessarily due to it, that a wide variety of other conditions which we have been inclined to overlook, can produce a picture which we have interpreted otherwise. There is, unfortunately, a tremendous over-emphasis on this gland existing in less specialized circles than our own.

Just this week I saw two instances which illillustrate that fact, one a new-born baby with clonic convulsions, with recurring attacks of cyanosis, in which the diagnosis was made of thymic pathology, where on examination the cardiac basis was immediately demonstrable. In a somewhat older child, three years old, with convulsions, a diagnosis was again made of thymic pathology. The child had a condition easily recognized clinically as heart-block.

I am very sure that the majority of our cases of so-called thymic disease are of cardiac, vascular, cerebral, pulmonary, or rather, atelectatic origin, or, maybe as frequently as any, where a condition of stridor is involved, that of pathology of the laryngeal structure, particularly in regard to the adequacy of the laryngeal musculature. Although that is the case, and 98 per cent of our cases presenting these symptoms are of other origin, it does not justify us in disregarding the possibility of the thymus being responsible for rare cases that we encounter.

I personally give my patients the best study that I can, and I am sure that I have encountered instances in which I could not exclude the thymus

as having been the factor. But I am very sure that there have been other cases in which that element has been construed as predominating, in which the facts did not warrant the assumption.

I believe that the only thing we can do today is to assume that the thymus is something of which we know very little, that, as a tissue in the human body, it is suspectible to pathology. Being susceptible to pathological states, it can, under circumstances, produce disease conditions, and as such we must keep aware of that possibility. Inasmuch as that is the case, we must recognize these states when they occur.

If we are going to use the thymus gland, as has been the case in the past, as an escape, as a means of hiding our ignorance, a diagnosis to get behind because we don't know what is wrong with the child, we are going to cause disaster and bring the whole profession into disrepute.

Those of us who have been in medicine for a long period of time have seen these recurring cycles and waves of belief in regard to this, that and the other phase of medicine. We have seen the thymus credited with a great deal for which it should not have been credited. We are experiencing today a situation in which it is not considered fashionable to believe that the thymus can be responsible for anything. I don't want to say that there is a middle ground. The thymus probably isn't quite that potent, but somewhere between the two extremes we are going to find that the thymus gland plays a role. The man who says that it is responsible for as much as we were inclined a few years ago to believe, certainly hasn't a foot to stand on. The man who claims that the thymus gland cannot be responsible for any symptomatology whatsoever is likewise without proof of his position. He may be right, but in the light of our present day knowledge and in the light of the lack of criteria that we have as to the thymus gland, he can't prove that he is right. Until the time occurs that we can get absolute knowledge one way or the other in these cases, after adequate study and elimination of all other factors, they deserve the benefit of such doubt as there may be.

Dr. R. M. Kempton (Saginaw): It seems to me that this has been one of the most worth-while discussions that we have been privileged to listen to in the state society for some time. It certainly has been well worth the long drive here.

When one visits the clinics about the country, one is struck by the varying approaches and opinions held on this subject by men of equally good standing. After the discussions such as we have heard this morning, in which various opinions have been given by our own men, to some degree, we can easily understand why that is true. I think it would be idle for me to attempt to review this splendid work that has been given this morning and also the splendid discussion given by Dr. Levy, but there are one or two clinical applications, it seems to me, that we might speculate upon.

For example, when we understand that such a large percentage of children will be given a diagnosis of large thymus by our roentgenologist, how careful we should be in throwing bombshells into the household with regard to the child's diagnosis. We have all seen nervous mothers almost go without sleep. They wake up during the night to see if the baby is still alive, because somebody has told them that the child had a large thymus. If it is true that a large series of cases of newborns have shown that 40 to 50 per cent of the children do show shadows, then that should be of some reassurance.

On the other hand, we do not know that a certain number of those cases are going to get into trouble, a small percentage of them. Would this be a good way to leave the matter? That we divide these cases into those that show symptoms and those that do not; those cases showing symptoms we will treat carefully; the group which do not show symptoms, which have a negative hereditary history, we will watch, expecting, of course, that a very small per cent will have an occasional accident.

In a recent discussion with Dr. Marriott, that is the attitude which he assumed. He treats the cases showing symptoms. The internists and surgeons have gone through much the same phase with the thymus gland in adults, varying methods of handling conditions. They are gradually settling down, I believe, to a rational basis. This thing, of course, is going to settle down gradually.

In the use of the X-ray we do have a potent method of bringing about certain results in the reduction of the size of the gland and no doubt in the function of the gland. With regard to the thyroid, the effect of the X-ray on the basal metabolism has been shown very clearly, in preoperative and postoperative cases. We know that we can reduce the function of the thyroid gland temporarily. In the X-ray we have a remedy which will cut both ways. It will cut down the size, reduce the size of the gland, and it will have some effect in reducing the activity.

Dr. E. W. May (Detroit): We have to take everything into consideration when we make a diagnosis of enlarged thymus, as to whether it is pathological or not. I want to point out several main things about this condition. First, the statements that we have had from men of different parts of this country and from Germany are from districts that are not in the goiter belt, or they do not have anything to do with goiter districts. I don't believe that those men see a great many cases of enlarged thymus. I believe that we will eventually find that the thymus gland is in close relationship to the thyroid, that it has a definite function in calcium metabolism. We find it in about 90 per cent of the young children having infantile eczema.

As far as the work of Dr. Hasley is concerned, I think that is an excellent piece of work, but I want to point out that he showed the case of an eighteen months old baby and in comparison with that he showed an eight days old baby. The eighteen months old youngster apparently had what we call thymic symptoms. I don't consider those enlargements any more, after seeing a great many autopsies on newborn infants and seeing that the type of thymus in those youngsters, in the main, has been what we call the cupping type, hugging down over the heart, with the large lobe on the right side.

There is another type that I term the keystone type that involves the upper part of the mediastinum more than over the heart. Then there is another type of the flat, pancake variety that involves the middle of the mediastinum. That bulges out considerably.

We ran a series of cases from Kiefer Hospital. We took all the youngsters that we considered were of that type, that is children weighing eight pounds or over, those that were twins and premature babies, those that had deformities, cleft palate. We rayed all of these youngsters, and everyone that showed a mediastinal shadow,

that I considered was a third degree, that was at least one to two finger breadths outside of the transverse processes on each side of the spine, were referred to Grace Hospital to see whether they developed the symptoms that we saw in youngsters after the first month. Dr. Wishropp followed those cases through, and I think he can tell us some of the results. I haven't had any conference, except this morning, with Dr. Wishropp about those cases.

I believe that in the past we have laid too much stress on the very small enlargements. Unless the babies at Kiefer Hospital showed definite cyanosis, there was no treatment given, whereas two years ago we treated every case that had a definite enlargement. I feel that I want to become more conservative about it. But still we must depend, too, upon the lateral views. In the past year I found one case that had a definite bark-like cry, just like a small pup dog barking, and another case where the baby was unable to cry out loud. We made lateral places on those cases and found a definite stricture of the trachea.

We gave those babies three treatments, and in both cases the cry became normal. I believe that it is going to take years before we will know definitely what to do in regard to the thymus.

Dr. E. Wishropp (Detroit): On the cases X-rayed at Grace Clinic, which were sent over from Herman Kiefer Hospital, we had a report of very positive finding. I was rather reticent to treat them on the first return to the clinic, unless I was very sure or actually heard a definite crowing and observed some cyanosis. I think that out of the fifty-seven cases, I sent fifteen down for treatment. Those fifteen cases were treated at intervals of one week, from one to three times, with the usual X-ray dose. All of those cases, excepting four, followed out the instructions very well and improved. They showed definite improvement in the symptoms for which they had been sent down. Two of the four that I mentioned did not improve, and two of them I lost. I haven't any report on them. We divided the symptoms. Besides the crowing, there were other symptoms, so-called irritability symptoms which I associated with lack of calcium assimilation or something of that sort, such as eczema, a definite vomiting which was recurrent and persistent, considerable amount of gas, so-called colic. They were not treated by an attempt at feeding. I sent down one or two of those cases but for only one treatment. They seemed to improve, but I felt that was probably because of better management on the part of the mother.

It seems rather conclusive that the X-ray was beneficial in a considerable number of the cases that showed the crowing and cyanosis. One case improved without any treatment at all, and it seemed to me that that had most marked cyanosis and crowing. I could find nothing in the heart or any other evidence that we considered the laryngeal stridor. That case did not improve under any consideration. The child crows now just as badly as it ever did. It is about eleven months old.

Dr. Donald J. Barnes (Detroit): I don't know whether it is of any importance, Mr. Chairman, but regarding the incidence of thymus disease or thymic hyperplasia in the goiter region, I noted a small group of cases who were given (that is the mothers) both calcium and iodids during their prenatal period. One of the children had what we considered some symptoms due to enlargement of the thymus. But it was just a small group, and apparently the administration of calcium and iodide had no effect.

Dr. D. M. Cowie, Ann Arbor: I am very much interested in this symposium, and particularly in the beautiful serial slides Dr. Hasley has shown. There is a definite symptomatology with which you are all familiar that we have attributed to the thymus. There is no question but that we are now able to tell by various means whether the thymus is enlarged or not.

For quite a number of years at the University Hospital Clinic we have taken into consideration the importance of the excursion of the diaphragm in its bringing about changes in the X-ray picture. We have also felt that it is important to take a lateral picture of the chest to prove whether the thymus is enlarged or not. We have had one experience where we were sure the patient had thymic symptoms, and the X-ray department was sure there was no enlarged thymus. This case came to autopsy. We found a very much enlarged thymus of a very unusual type. There was an increase in the antero-posterior diameter of the thymus. It laid directly back of the sternum and showed no lateral shadow whatsoever. I think there is no question that this symptom group is very often made better by exposure to the X-ray whether we find an enlarged thymus or not.

We have had some experience with hare lip cases at the University Hospital. In the old hospital where our facilities were not as good as they are at the present time, our death rate in the hare lip group was far too great at one time. We did not know just how to overcome it. Finally, our knowledge advanced far enough to make us feel that it would be a wise thing to make X-ray pictures of all these cases before they were cent to the operating room. Some of these would show thymic enlargement. We adopted the plan for a time that whether we found an enlarged thymus or not we would give them an X-ray treatment about twenty-four hours before the operation was performed. Our death rate was lower after this.

Of course, we must also remember that we were making a great effort to prevent anything happening to these infants, and maybe that increased effort was a great factor in lessening the death rate of the harelip group as was our effort to have an X-ray exposure made. At the present time quite a number of the harelip cases are receiving X-ray treatments prior to operation, but not all.

Dr. Harold H. Roehm (Birmingham): In regard to the geographical distribution of the thymus, particularly in the so-called goiterous areas, I had the pleasure of a short conversation with Dr. Fehr a while ago; my leading question was this: "In this goiterous region where you have a great deal of thyroid enlargement, how often do you see an enlarged thymus?" His answer was, about one in one thousand.

The other thing I should like to say is this, in hearty subscription to Dr. Cowie's statement: There is a symptom syndrome which you are going to see and which I think perhaps I see in about one in sixty infants. That is relieved by a moderate amount of X-ray treatment. It may or may not be X-ray evidence of the enlarged thymus. Your patient, the mother, and yourself are seeking relief of this symptom. In the very small doses of X-ray given by someone who is competent to do it, and with proper protection of the organs, there is no danger. We know that

we do get relief from these syndromes. Therefore, I would beg that cautious X-ray treatment of a patient with this symptom syndrome be not thrown into the discard. I think it is still valuable.

Dr. F. Miner (Flint): This discussion is most interesting. Dr. Hasley's contribution is going to give us new studies, I think, in thoracic cases. I should like to ask Dr. Smith one question. Did you give us to understand that the overfeeding of vitamins will increase the size of the thymus?

Dr. Clement Smith (Ann Arbor): I had the report of one case.

Dr. F. Miner (Flint): What vitamin?

Dr. Clement Smith (Ann Arbor): I believe there were all three, A, B and C, of the original vitamins.

Dr. F. Miner (Flint): Then, aren't we in face of a new danger? The pharmaceutical houses have found a new process or way of selling their cod liver oil at an increased price. Our wastebaskets are already beginning to groan from the amount of literature that is coming through the mails on the vitamin proposition.

The tendency of the profession, as Dr. Levy summed it up, is all too true. How eagerly we grasp at new things and use them all too indiscriminately. I wish the general practitioners could have heard this symposium this morning. They need it. They are the men who are going to use the new form of cod liver oil in as big doses as the ordinary cod liver oil. It will be interesting for you investigators in the next few years to observe whether the thymus is going to increase or not since this boosted strength of the vitamin in cod liver oil is going to come into use.

Dr. Thomas Gordon (Grand Rapids): I just want to say this one thing, it is beginning to be apparent that our old idea that mechanical pressure on the trachea was the cause of symptoms and of thymic death, is not the only factor. There must be other things in the way of internal secretory connections with other glands, nervous things in connection with this vagotonia, possible heart lesions, causing these deaths, and many other things that must be taken into consideration in interpreting the deaths from status thymicolymphaticus. Our nose and throat men are going to give up the easy explanation of the sudden deaths after operation, as they explain them all by thymic death.

Chairman O'Donnel: Dr. Parsons and I placed this subject on the program for one reason, to bring out discussion. We know that the last word had not been said on the subject. I think the end has been well met in that everybody has taken an interest in the subject. I think we have a great right in pediatrics to discuss it pro and con.

As Dr. Kempton mentioned, the subject of thyroid is in about the same state. Great research has been done on it. Despite that fact, they are still in the air as to whether to use X-ray or radium or iodin. The same thing can be said, for instance, of bastric surgery, the treatment of ulcers. They go back and forth, and out of that great maze of discussion, they gradually arrive at certain definite conclusions.

It is quite interesting to watch the trend of this condition. For instance, Dr. Abt of Chicago, a man of great experience, who has had a wonderful experience both in the hospital and private practice, in his book, "The Year Book of Medicine," uses two lines in the editorial practically saying that thymus is the bunk. Dr. Morse, a man of long experience in Boston, passes off the same thing.

The younger generation, that is going by years of experience, for instance a great many of Abt's men, put on a big symposium in the Chicago Pediatric Society about eight weeks ago. The whole evening was taken up by a discussion on thymus. Many of the things brought out today in this symposium were brought out by these younger men.

My idea was to bring this up, with the idea that maybe three or five years from now we will bring it up again in this section to see if we can gradually clear the light as to what it is all about. I started out in sort of the birth of the thymus in Ann Arbor. We did a great deal of work on it there, and I really feel that I know something about it. Today I have a few ideas on it, but I do not care to express them. They have been well expressed by other people. I think the best thing that can be said is that we should all keep an open mind.

A great many of the discussions today dealt with various types of cases, some with hospital clinic cases. I think the harelip group at Ann Arbor is a definitely inferior group of individuals. I worked there for five years and had a chance to observe it. Probably that whole group is a constitutional group. Along that line, out of the maze of goiter work by Dr. Ward, who is a great observer, he has written a very interesting article on the thyroid constitution, practically showing from his observation that thyroid toxicosis or abnormal thyroid, anything that is toxic in the thyroid is the fundamental basic factor that the patient shows a certain definite constitution. That has also been brought out by Sanders in New York.

I hate to see anybody take a closed attitude on the subject. I feel that everybody has a right to his own opinion. If we do that and close it out in one way or another, it will do away with this very nice discussion which we have had today.

TEETH TROUBLES HEAD LIST OF OFFICE WORKERS' AILMENTS

Only 6 out of 1,000 male office workers were found free of physical defects in a study reported to the American Public Health Association by Drs. William Muhlberg, Corey P. McCord and Floyd P. Allen of Cincinnati. Among the other 9,994 men, defects of teeth, weight, heart and blood vessels, vision, and hearing were most frequent in the order named. The men examined were all ages from under 35 to over 65 but three-fourths of them were between 30 and 55 years. Significant physical defects were found in 781 of the group, only minor defects in 213. Overweight was found to be a bad condition occurring along with defects of heart and blood vessels, especially in men over 45 years. The examination records showed that over three-fourths of the men would benefit by early medical care. In many instances defects were discovered which would eventually lead to serious physical handicaps, but which were unknown or uncomplained of by three-fourths of the entire group. The study was sponsored by the Heart Council of Greater Cincinnati.—Science Service.

"THE DOCTOR'S LOG"

WILLIAM J. STAPLETON, Jr., M. D.*
DETROIT, MICHIGAN

Lord Bacon tells us: "Travaile in the younger sort is a part of education; in the elder, a part of experience. That young men travel under tutor or grave servant I allow well; so that he be such a one that hath the language, and hath been in the country before, whereby he may be able to tell them what things are worthy to be seen in the country where they goe. Let him carry with him also some card or booke describing the country where he travelleth, which shall be a good key to his enquiry. Let him keepe also a diary. Let him not stay long in one city or town; more or lesse as the place deserveth, but not long. When a travailer returneth home, let him not leave the countries where he hath travelled altogether behinde him. And let his travaile appear rather in his discourse than in his apparrell, or gesture. An in his discourse, let him be rather advised in his answer, than forward to tell stories."

As a sub-title we might use "Five Thousand Miles in Europe Without a Puncture," for that is the record of our sturdy Cadillac this past summer. We drove from Detroit to Montreal, stopping at Toronto, which has much of medical interest. Montreal with its memories of Osler and McGill, has an absorbing tale for the physician. There the car was put aboard the Duchess of Bedford. Taking one's car to Europe requires certain formalities, most of which are taken care of by the steam-ship company. After filling out a full description of the car, declaring extra tires, tubes, horns, and tools for customs; obtaining permits for landing and space on the boat, we joined the Royal Automobile Association of England. Italy is the only country in Europe that recognizes an American license. When we landed a representative of the Royal Automobile Association of England met us with all the necessary papers, French license plates, a good supply of oil and gas, and in an hour's time we were off. American citizens, members of the English Automobile Club, traveling with French license plates, some combination.

Early Sunday morning we landed at Cherbourg. Our car was swung off on a tender; we went through customs and were on our way within an hour. The Michelin Tire Company of France publishes road maps and guides at a most reasonable price. The roads of France are all well marked and with a little practice one soon learns to know where to look for the markers. We lunched on luscious strawberries with clotted cream, omelet and fresh lobster salad at St. Patrick's restaurant in the old town of Bayeaux, where we saw the famous tapestry made by the Good Queen Matilda and her maids. This so-called tapestry is about seventy-five feet long, showing in a curious and delightful way the story of William the Conqueror and the Norman Conquest.

From Bayeaux to Caen, the old stronghold of William and Matilda, we found a fine old cathedral and a town teeming with historical interest. The Chandivert, one of the best restaurants in France is here close by the church of St. Pierre. Thence on our way over the good Norman roads to one of the wonders of France—Mont Saint Michel.

MONT SAINT MICHEL

Originally Druids held their mystic worship in the great Abbey Church on the Norman Coast, and the Romans had their temple to Jupiter. In the eighth century at the command of St. Michel, a good bishop built the first Christian shrine here. Later a great earthquake caused a tidal wave to sweep over the surrounding forest, isolating the Mont from the mainland. It remains today the most picturesque and unique spot in the world. It's a mass of huge granite rock rising out of the sea, a fortress with a village of walls and steep winding stairways on the summit of which stands the great abbey church with the armour clad figure of St. Michel, conqueror of Satan and patron Saint of France. It was in 1066 William of Normandy conquered England—the Norman Conquest. England remained united with Normandy for one hundred and fifty years. After centuries of vandalism, Mont Saint Michel remains a marvelous piece of construction, a religious art treasure dear to architects. Here we stopped at the famous Hotel Poulards where for dinner we had omelet a la Mere Poulard and roast chickens, revolving on a spit before a great log fire in the ancient kitchen. (Mere Poulard's son

* Dr. Stapleton is well known to the medical profession of Michigan and particularly well known to the Wayne County Medical Society where he was President in 1924-25. The Journal has had the opportunity of publishing a number of "Doctor's Logs" in the past. The comment has been so favorable that we take pleasure in presenting herewith Dr. Stapleton's traveling experiences of the past summer.

is a famous Parisian occulist). Henry Adams has written a fascinating book, "Mont Saint Michel and Chartes", which makes the meaning of Medieval architecture a living thing.

West of Mont Saint Michel in Brittany is the town of Quimper with its monument to that great master of Internal Medicine, Rene Theophile Hyacinthe Laennec. Franklin Brucker, the young Detroit artist has pictured nine great medical men in his cover for the Bulletin of the Wayne County Medical Society. Three of these are French, Pare, Pasteur and Laennec—

TH. LAENNEC,
1781-1826

the French honor their doctors. In Paris many of the hospitals are named after French physicians — Hospital Laennec, Jarnier, Claude Bernard, and Pare. There is the Rue Medicine, the Musee Duptyren and many others, also the hospital wards are named after the men who labored there. In the courts of the schools of medicine are busts of the foremost professors. War has its monuments to generals who led men to death, why not a memorial to the heroes who help men to live?

LAENNEC

Laennec, the inventor of the stethoscope and author of that Classic "De L'Auscultation Mediate" was born in Quimper. He was the man who did the most for the consumptive, accidently inoculating his own finger while examining a tubercular vertebra. His life is an inspiration to every medical student and physician. For a delightful account of this leader read "Laennec" A Memoir," written by Gerald B. Webb, M. D., United States delegate to the Laennec Centenary held in Paris December, 1926.

LAVAL AND PARE

Going south we come to Laval where on the Promenade de Change one sees a statue to that French master of Surgery who was born there, Ambroise Pare. Pare started life as a barber's apprentice, studying in Paris, then joining the army as a surgeon and finally becoming the greatest surgeon of his time. It is said that he was the only Protestant spared at St. Bartholomew's, this by order of the King. Pare reintroduced the use of the ligature, invented many new instruments and of interest especially in this day of automobiles, described carbon monoxide poisoning. He was a most versatile man, even writing a little book on Medical Jurisprudence, transplanting teeth and discussing flies in the transmission of disease. His "Journey's and Travels," describing his life in the army and elsewhere make interesting reading for a doctor.

CHATEAUX

France has many chateaux but in passing I want to mention the lovely country of Touraine and the Loire Valley where the six Royal Chateaux are historically and architecturally important. They recall stirring days of the struggle and rise of France. We chose Tours for our headquarters visiting Chinon where Jeanne de Arc came from Orleans to arouse Charles the Dauphin, when France was besieged by the English;—Ambois, where Charles the eighth was born and Leonardo da Vinci lived;—Chambord, where the Bourbon and Valvois Kings loved to hunt;—Chamont, the home of Catherine de Medici, is now the hunting preserve of the French President. Chenonceaux is one of the loveliest of the Chateaux with a magnificent avenue of trees leading to it. It is now one of the many homes of Menier the French Chocolate King. These are but a few of the more prominent Chateaux and to us fascinating because of the thrilling history they recall.

From Laval our route takes us to Angers with its Cathedral where one may see some of the finest tapestries in Europe. There also is the castle with seventeen towers where the good King Rene was born. In the old Hospital St. Jean built

by Henry, seventh of England is the Archaeological Museum. And on for the night at Samur where the French government had its world renowned cavalry school. Tours was the home of Descartes who wrote "De Hominis" in 1662, said to be the first European text book in physiology. Another son of Tours was Honore Balzac whose book "The Country Doctor" in his great series entitled the "Humane Comedie," is a story of a doctor working among the Cretins in a little French village.

BORDEAUX

Then via Poitiers and Angouleme both towns with much of historical interest. We arrived early in the evening at Bordeaux, where we had dinner at the famous restaurant "Chapon Fin,"—like dining at the bottom of the sea. Bordeaux is one of the busiest towns in France with a great wine trade. In the grand hall of the "Faculte des Letters et des Sciences" is the tomb of that great man Montaigue. Have you read "Montaigue and Medicine" by James Spottiswoode Taylor? This is the Essayist's comments on comtemporary Physic and Physicians, his thoughts in many material matters relating to life and death; an account of his bodily ailments and peculiarities, and of his travels in search of health. It is a story of a man's sufferings at the hands of many doctors.

From Bordeaux we drove for a long summer's day through the district known as "Landes", a great tract of land reclaimed from the Marshes and now a forest preserve. This is the land of the Basque where the Beret came from. The Beret is now very popular in this country with the motoring youth. It's a land in which to be lazy and in which to loaf and to invite one's soul.

Night found us in Biarritz, the gay seaside resort. Next day we drove into sunny Spain, visiting San Sebastian, the seaside resort of Spanish Royalty, then out to Monastere de Loyola, where that great priest once a soldier, and founder of the Society of Jesus, was born. The ride along the sea and up the mountains was delightful.

ROUTE DES PYRENNES

Leaving Biarritz, we proceeded along this route, one of the finest in Europe, up and down over famous passes like the "Col de Osibique" coming into one of the thermal spas with the odd name of Angeles Gazost. Here lived the Dupre family, one daughter Sophie became the mother of Marshal Foch. The next day found us motoring into that Mecca of thousands of Pilgrims who go there in search of health and happiness, Lourdes.

LOURDES

Picture a small town nestling among the foothills of the Pyrennes on the banks of the river Gave. It is one of the most famous of all Catholic shrines. The story of Lourdes and the visions of the peasant maid Bernadette Soubrious appeals both to the believer and the non-believer. It is quite impossible to tell the wonderful story here. Any medical man visiting Lourdes should go to the Medical Bureau where the records of the cases are kept. Here one may not only examine the records but sometimes see the cases themselves, the buildings such as the Bascilica, Crypt, and the Rosary Chapel are magnificent structures. It is a place to ponder over. For a sympathetic account read "The Wonder of Lourdes" by John A. Oxenham, an Englishman and Protestant. An enlightening guide entitled, "Lourdes" gives one the story of the town and the maid. The medical part is taken care of by a volume entitled, "The Facts of Lourdes, The Medical Bureau", by Dr. A. Marchand.

A short run took us to that weird place in the mountains called, The Cirque de-Garvarine and driving over another high pass the "Col des Tourmeplet", we arrived at the little town of Luz where we visited one of the few fortified churches in the world known as "Eglise de Templar", or the church of the Knight Templar. Linked up with this church and its bricked up door at the rear is the story of those queer people known as the Cagots or Cretins as we know them. In those days they were not permitted to mingle with other people, and were only allowed to do wood cutting and butchering. Even in going to church they entered the rear door and were separated by a railing from the congregation. Communion was administered by means of a long stick.

Continuing our way by Tarbes and St. Gaudens along the great mountains through peaceful little French villages and lively little Spas through Montreal, Foix and Mirepoix, the last an interesting example of a type of town called "Bastide" or a made to order town of olden time. They were built for military purposes. And now we come to the second wonder of France.

THE CITY OF CARCASSONE

The glory of Carcassone is its walls which give the beholder the true picture of

the walled town. We inspected the outside and the inside of the town, and its dirty and smelly but unique and intriguing streets. The story of Carcassone is long and warlike, coming up through the time of the Goths, Visigoths, Moors, Romans to the French. Thanks are due to the fine work of restoration by Viollet-le-Due, the great architect. Inside the walls is a fine but expensive hotel where one can rest and absorb the atmosphere of medieval times.

We are now in Provence, the land of the Troubadors with its memories of the singers and poets of early days. At Nimes, Arles and Orange are the finest Roman remains in France. On we go over the fine roads and at evening enter the walled city of the Popes—Avignon on the Rhone. Here we visited the great palace of the Popes, the garden and the famous bridge. Avignon brings to the physician the story of that great surgeon, Guy de Chauliac, who is described in a fine article entitled "The Public Looks at Pills" by Agnes Reppler in the Atlantic Monthly. Guy de Chauliac was Papal Chamberlain at Avignon and the first surgeon of his day. He set the seal of glory upon his name when he stuck to his post during the ravages of the Black Death in 1348. His Chirurgia Magna is the treasure of the antiquarians, his Admonitions to the Physicians equals, if it does not surpass the noble work of Hippocrates. But because he practised what he preached, because he saw half the population of Avignon swept away, and stayed to heal the other half, his memory is honored of men and his soul "beacons from the abode where the eternal is."

Avignon has a great and varied history. Long before it belonged to France, Joanne of Naples sold it to the Popes who held it for 450 years until the French Revolution. Its mighty mass of architecture is now being restored. A fortress and shrine in one, with walls thirteen feet thick, eight gateways and thirty-nine towers, the whole city is surrounded by a wall and here the Popes lived and dominated the Rhone valley. It was in the great audience chamber of this palace that the much married and beautiful Queen Joanne of Naples pleaded her cause before Clement the Sixth for her conspiracy in the murder of her husband, the King of Naples who owned Avignon. She was vindicated by Clement to the rage of her accusers and her pardon was purchased by selling Avignon to the Popes. An interesting book entitled, "The Pope of the Sea," by Vicente Blasco Ibanez gives a realistic picture of life in Avignon during the time of the Popes. And all lovers will remember that Laura and Petrach lived in Provence.

One of the outstanding figures in Provence life is Frederick Mistral, poet and writer who did more than any other to revive and protect folk-lore, history, customs, and legends of France than any other one person. In the early days his family took their name from the great wind that sweeps down from the lower Alps over Provence, called the Mistral. The country changes completely as we go south, almond, olive, and orange trees grow in abundance. The soil becomes sandy and more rocky, hugh masses of grey stone on all sides make a rather melancholy landscape. We are now on our way to Les Baux, a phantom city high up in the white chalk cliffs that were once washed by the Mediterranean. The road zigzags up and around until we are in the dead city built on the rocks of the hillside. In the Middle ages the Counts of Les Baux were great feudal lords, descendants of King Balthasar, the wise man. Their court at Les Baux was the center for the Troubadours, the most powerful city of Provence at that time. This once flourishing town has crumbled into ruins with a population today of sixty people, weird and fantastic, we gazed off in the distance where Hannibal treked the first elephants from Africa to these shores. It has been described as "like a rat in the heart of a dead princess feeding apparently on Gaulish tibias, skulls of Roman soldiers, dead cats, a stone period and miscellaneous assortment of rustry iron."

We spent the night at Aix-en-Provence. Everyone has heard of the good King Rene. This was his capitol. Up and down the country he built churches, castles and stimulated the cultivation of the vine, everything to do with the development of France. It was he who first introduced music in churches, wrote poetry, drew maps and painted church windows. Aix was the Royal town of Provence and for six hundred years the capitol, quite independent of France. The next day on our way we stopped at Brignoles where we lunched under gay colored umbrellas at small tables on the lawn. We were interested in watching the head-waiter very skillfully catching live trout from the pool and in a short time the fish, deliciously cooked, were served to us.

SAINT-MAXIMIN

Of the many interesting towns we visited, Saint-Maximin, the presumed burial place of Mary Magdalene, is unusual. Legend tells us after the resurrection of our Lord, the Jews became greatly incensed at the rapid spread of Christianity. Mary, Martha, Mary Magdalene, Lazarus, Mary the Mother of James and John with her colored servant Sarah, Joseph of Arimathea, and others were thrown in an open boat, without oar or rudder, and cast out to sea where surely a horrible death awaited them. For weeks they floated on, the winds finally blowing them to the friendly shores of Provence and from here the faithful followers went out to preach the Gospel. Maximin, one of the disciples, became first Bishop of Aix, and was buried at Saint Maximin. Martha and Lazarus were buried at Marseilles, Joseph of Arimathea crossed to Glastonbury and was the first to take Christianity to the English shores. Sarah the colored servant became the patron saint of the gypsies and to this day in May the gypsies come from all over Europe to worship at her tomb and elect their Queen.

THE COTE D'AZUR

Driving south we passed through Montpelier, famous for its university. It was here where Balard discovered bromine in 1826, in the waters of the Mediterranean. And now we come on the ever beautiful, blue Mediterranean. Many have probably seen the French and Italian Riveras, lovely beyond description, the deep blue, blue of the sea, the gorgeous flowers, magnificent villas and hotels. We took the coast road called the Corniche through Cannes, Menton, Monte-Carlo making Nice our headquarters. A short distance from Nice over the George-du-Loup we motored to Grasse, the perfume center of the world. These valleys are covered with every kind of flower, tons and tons of them. Catherine de Medici is supposed to have started the perfume industry here. The base of every perfume has to have one of three animal odors, musk from the musk-deer; skunk from the Canadian skunk; or ambergris, the gray-white substance thrown up by the whale. Fishermen count it a lucky day when they find ambergris floating on the ocean. It is of disagreeable sweetish odor, found in quantities varying from one-half ounce to 100 pounds, worth many thousands of dollars. With one of these powerful animal odors as base, tons of rose petals are added distilled together, making about two ounces of real perfume. Therefore the high price of good perfume. Some of these flowers are distilled through pure white lard and from that fat comes the lovely scented soaps. It is estimated the United States spends 177,000,000 dollars on perfume a year.

Along the rough Italian roads we motored to Genoa, the city of arcades, and the home of Christopher Columbus. Then to Milan, seeing again the lacy Cathedral and the famous painting, "The Last Supper", by the great painter and anatomist, Leonardo da Vinci. I wandered through the Ospedale Maggiore, a great city hospital of ancient type is used for teaching purposes. All the hospitals have a chapel as part of their equipment.

At Como we lunched at an outdoor cafe overlooking the lake. Here we received our first lesson in spaghetti eating, watching an Italian make way with a huge platter of the steaming food. In the square is a statue to Alessandio Volta who was born here. He was a professor at Pavia in 1778-1819 and was famous for his work in electricity. Voltaic pile was devised by him. He showed that a muscle can be thrown into continuous (tetanic) contractions by successive electric stimulation. At Pavia between Genoa and Milan is the oldest university in Europe. On the medical faculty was Luigi Sacco who introduced vaccination into Italy in 1799.

Night found us at Bormio, an old Roman hot springs high up on the mountain side. This is a fine place to rest, looking at the mountains and scenery. Here is the highest motor road in Europe, the Stelvio Pass. Much of the terrific fighting in the great war occurred here between the Italians and Austrians. The scenery at the summit is indescribable. Coming down from the Stelvio, we pass from Italy into our sister republic in Europe.

We enter Austria via the Tyrol with its wonderful peaks, pleasant valleys, hospitable inns, thatched cottages and picturesque costumes which have an appeal for all. The trip by auto through highways across the snow covered mountains, past countless castles and through prosperous valleys and quaint towns unrolls a panorama of absorbing interest. "A Wayfarer in Austria" by G. E. R. Gedye, who was the London Times representative in Vienna, is a fine book for the visitor to Austria. Passing Stamm with its famous Cisterician Abby, we motored along the beautiful valley of the River Inn and arrive at Innsbruck.

INNSBRUCK

A fine old town with memories of Andreas Hofer, the George Washington of the Tyrol. His life story with its struggle for freedom from the French is as thrilling as a novel. Here is a medical school and hospital that attracts students from outside of Austria. A visit to Bad-Gastein, one of the famous Spas and we enter Styria to visit our friend Hugo Haas, at his home, the Traunmuhle (mill on the Traun). From a medical viewpoint this is one of the greatest goitre districts of the world. I have the pictures of two and call them the goitre man and wife. They are painted on tin and the picture is over a hundred years old.

Styria is also known as a region where there are many arsenic addicts, using arsenic the same as others do cocaine and morphine. There is an old superstition that it is good for impotence and the women use it to produce abortion. In all suspicious deaths a hunt is made for arsenic. Some of the people can take quite large amounts without apparent damage.

I ran down to Vienna for a few days and dropped into the A. M. A. Alserstrasse 9, which was as busy as usual. If one is

Coin with Billroth's Image and Superscription.

interested in post-graduate work in Vienna, write to the A. M. A.-Wien and ask for a copy of the Blue Book. This gives all the necessary information and is a great help to have before visiting Vienna.

The Austrian-American Institute gives courses in German, as well as excursions to interesting places and lecture courses in English by experts in various fields. Vienna for many years has been the mecca for American physicians although the English, French, Germans, and Italians are now offering courses. I love Wien with its old Allgemeine Krankenhaus, its modern hospitals, clinics and museum, besides its wonderful government buildings and gardens—its music, art and charming people. Vienna is the only city in the world having a socialist government. Some interesting experiments are being carried out in housing people. The new municipal dwellings are marvels in equipment and the rental charged is very low.

Austria this year has issued a two schilling coin in memory of Billroth—the great surgeon. This is the first time I have ever seen a doctor's head on a coin. Isn't that a fine tribute. Read: "The Vienna That is Not in the Baedeker," for an amusing account of Vienna life. From Vienna we go via the lovely Semmering Pass to the capital of Styria.

GRAZ

Here you can see one of the finest hospitals in Europe, the Landes Krankenhaus. In this provincial town, rarely visited by foreigners, is I think one of the best places to do post-graduate work provided one speaks German. Dr. John, one of our own doctors, has just returned from doing work at Graz and I am sure he would be glad to give details regarding the opportunities there. Leaving our home in Austria we motored through beautiful mountain roads down into the old town of bishop warriors.

SALZBURG

Buried in one of the old churches of Salzburg lies that strange genius of medicine, Paracelus. He was a great man and will be appreciated more in the future. A shatterer of idols, a blustering half mystic type, he gathered knowledge from old wives, gypsies in country and town. What a life he had, it's a fascinating story. Did you ever read what he said about sleep? "Sleep is the chiefest thing in all Phyick." "The fittest time is two or three hours after supper when as the meat is now settled at the bottom of the stomach, and it is good to lie on the right side first, because at that side the liver doth rest under the stomach, not molesting anything, but heating him as a fire doth a kettle that is put to it. After the first sleep it is not amiss to lie on the left side that the meat may the better descend, and sometimes again on the belly, but never on the back."

Salzburg is also the birth-place of Mozart and the "Festspiel" town where that theatrical genius Max Rheinhardt puts on his great performances like "Jederman" "The Miracle" and others.

We enter Deutchland going to Munich,

one of the finest towns in Europe. Here the spirit of the "Gemutlichkeit" is more apparent than in any other part of Germany. Music, Art, Opera, Theater, Medicine, one can obtain his fill in Munich. The greatest museum, the Deutsches Museum, is here; also a fine pathological museum open to the general public. The comic German papers, Simplicissimus, Flugen Blatter, Jugend and others are published here. In the hospitals and clinics, renowned teachers are ready to teach the latest method in medicine. A good place for post-graduate work but one should have a good knowledge of German.

AMERICAN STUDENTS AND GERMANY

President C. F. Thwing has just published an interesting book, "Americans and the German University—One Hundred years of History." We read about Franklin's visit to Gottingen in 1766; we accompany the Harvard men, Everett, Tichnor, Bancroft and Cogswell to Gottingen in the beginning of the 19th century. Since that time 10,000 American students have been enrolled in German universities, one-half of them in universities in Berlin. Germany offers every variety of instruction. An excellent paper in English entitled "German Universities" can be had from the German Railroads—New York City. American students in Berlin will be assisted in the matter of the matriculation by the Amerika Institut, Berlin.

The consensus of opinion regarding post-graduate work in Germany is that the smaller universities offer the best opportunities for work—just now there are comparatively few foreign students in Germany. Only about 164 Americans are studying there. The reason given is the reactionary attitude of the German students; many of the student groups are said to be hostile, which seems strange when the rest of mankind is seeking peace. Nearly all of the universities have summer courses for foreigners.

From Munich we motored straight to Augsburg the first town in Europe to have a waterworks and here the first fire engine was made. Through the beautiful scenery of the Black Forest, we motored to Freiburg, the town of the "Dammerschlaf" or "Twilight Sleep" which was originated in the University Clinic. The Black Forest is formed by a chain of densely wooded hills and mountains and the landscapes are of exceptional beauty. Magnificent forests of fir and pine trees make this one of the finest health resorts in the world. The population consists of typical peasants and mountaineers mostly in their quaint native dress. Baden-Baden is another delightful "Spa" town which makes one want to linger, drink the water and listen to the good music so universal in Germany. Through Karlsruhe we come to that romantic town beloved by students.

HEIDELBERG ON THE NECKAR

Renowned in education, history, music and fiction. The duels are still carried out in an old tavern just outside the boundaries of the university grounds though strictly forbidden within. We saw many students with freshly made scars. Heidelberg has many famous medical authorities, and is well known for the fine Cancer Research Institute. It also has summer courses for the foreigners in the university founded by Prince Rupprect in 1386. The student's prison with pictures of its former inmates is worthy of a visit and of course everybody goes to the ruined castle, of which Longfellow said "Next to the Alhambra of Granada, Heidelberg is the most magnificent ruin of the Middle Ages."

From here we motored via Mannheim to Weisbaden, the lovely watering town, then to Darmstadt, where great chemical works of Mercks are located, then on to Frankfurt on the Main.

In exploring "Alt Frankfurt" I found on an ancient building this inscription:

"In disen haus winde 1683
Lorenz Heister geboren
seiner Zeit groster chirug Europos"

The greatest European surgeon made the first postmortem section of appendicitis, introduced the term "Tracheotomy" and wrote a "Chirurgie" valuable because of its instructive illustrations. This was the most popular surgical work of the 18th century says Garrison. Frankfurt was the home of the wealthy Rothschild family, of Goethe, Germany's greatest poet, and of the noted medical historian Karl Sudhoff. It was in Frankfurt's great chemical plants that Ehrlich was able to work out salvarsan. Contrary to the general rule in Germany the people of Frankfurt do not drink beer but cider, and they eat wurst instead of Frankfurters. A great hospital and medical school are part of the University of Frankfurt. From a tourist's point of view, it is the most interesting city in Germany.

German Spas, the classic land of the Spas and health resorts. The "cure" as the treatment in the Spas is called is much more used in Europe than in America. The

English, French and German physicians continually prescribe the Spa for treatment. In each Spa there is a recognized list of physicians who direct the cure. Germany's forests, lakes and mountains and two sea coasts all add to the health resorts. The Baltic Sea sheltered by pine woods is most soothing while the North Sea has a powerful surf and appeals to the type of people who love the tang of the sea. As for the healing springs there are multitudes. Beside treatment are all sorts of entertainment, beautiful gardens, parks walks and every known sport, and even churches. Thus body, mind, and soul are catered to with that characteristic German detail. Some of our home resorts might copy with profitable results the methods used all over Europe.

Along the Rhine, legends, haunted ancient strongholds, beautiful vineyards, picturesque villages, venerable towns full of superb art treasures, magnificent cathedrals, stately castles, such is the story of the Rhine, much lovelier by motor than by boat. It is the most important river not only in Germany but in Europe. If one reads the legends of the Rhine he will enjoy the trip much more. After breakfast in Frankfurt, lunch at Bingen, we had our tea at Coblenz where the American Army of occupation was located, and dinner in Cologne. From Cologne we drove north to see something of the industrial center of Germany. Essen, the home of the Krupp Works; Dusseldorf, a fine city with beautiful parks and fine art gallery, to the ancient city of Aix la Chapelle Charlemagne is buried. The Germans call it Aachen and here we crossed the border into Belgium.

"Omnium fortissimi sunt Belgae", wrote Caesar of the inhabitants of the land. History repeated itself in the Great War for it was the Belgians who upset all the calculations of the Germans. This little country has a long record of war. In 1831 it became an independent kingdom. It is a land of churches, belfries, hotel de villes and Halles. Its art history is that of the great masters. There are four universities, among them Louvain, the destruction of which will always be remembered. The new library built by American friends is one of the most beautiful of its kind in the world. Our first stop was at Spa, which has given its name to every other watering place. Here the Imperial Army had their headquarters and you can see in a villa outside the town the massive bomb-proof underground shelter built for the ex-Kaiser during air raids. Spa is the oldest of all health resorts devoted to the drinking of medical waters. The virtues of the waters were discovered by Augustine, Venetian physician to Henry VIII. Our way lay via Liege, Namur and Dinant, each showing scars of the late world's war. On through the Ardennes the lovely forest region of the Belgiums and then to Brussels.

Brussels is a little Paris. Here we enjoyed the opera every night. The hospital of St. Jean has the front of the building plastered over, with wall plaques giving names of its benefactors. In the chapel are fine paintings. One day we motored out to Malines to hear the carillons and to see the Palace of the Archbishop Mercier, that noble figure so heroic through the German occupation. From Brussels we drove to Antwerp where I visited several of the hospitals, inspected the famous Musee Plantin, where many of the early medical books were first published.

Between Galen and Harvey in European medicine, says Garrison, stands Andreas Vesalius. He was a son of Belgium, a Fleming by birth. So to Belgium besides its valiant spirit in war we owe one of the greatest advances in medicine, the masterly work of her son. "DeFabrica Humani Corporis," published in 1543, one of the finest books of this great personality with many illustrations, was again published by the English drug firm, Burrough Welcome Co. When one visits London he should spend a day in one of the greatest of all medical museums, owned by this company.

Antwerp has of course some of the finest paintings in Europe; is also one of the largest ports, due partially to its being the market for the produce of the Belgium Congo. A three days fete was on when we were there, street music day and night, the people dancing till the wee hours of the morning, we simply couldn't sleep and were glad to be on our way sailing down the Scheldt, fifty-three miles to the sea. Behind huge dykes we can see the red tiled Dutch roofs and old wind-mills in the distance. Back to the memories of the little Dutch lad who saved Holland by plugging the hole in the dyke.

When one goes abroad let him remember, "He that would bring back the wealth of the Indies must carry the wealth of the Indies with him." In other words be prepared by reading up on all one intends to see.

And so we come to the end until the urge comes again.

"I must go down to the sea again,
For the call of the running tide,
Is a clear call and a wild call
That may not be denied;
My roving heart must follow
The rover's long desire.
Because I have not quenched it,
That spark of wander fire."
—The Running Tide.

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THE INTER-RELATIONSHIP BETWEEN DERMATOSES AND INTERNAL DISEASES*

R. C. JAMIESON, M. D.**
DETROIT, MICHIGAN

One cannot investigate a question of this kind to any extent before an apparently paradoxical situation becomes evident, namely, that many dermatoses of various types are found to be either directly or indirectly related to disturbances of internal organs —either organic or functional—but that there are very few definite diseases of such organs that give rise to consequential dermatoses as a direct result of such disease.

It had been my intention to discuss only the latter relationship, but on investigation the subject matter was found to be so scanty and indefinite that the scope of the paper was enlarged to include as much as was practical of both sides of this inter-relationship.

While there are many dermatological diseases which are of internal origin, they are of the varieties that can be traced to infections of bacterial origin, to medication, to toxins due to the introduction of food, etc., and need not enter into the discussion.

In order to simplify the question, the dermatoses related to internal diseases may be conveniently grouped into general divisions: 1st. Those which are known to be due to such disease. 2nd. Those which probably are due to such causes, but whose etiology is not definitely understood.

In scanning the dermatoses which are definitely related to diseases of internal organs, it is at once apparent that there are almost none, although the probabilities are that many are so related, but not proved. The skin changes in jaundice with the accompanying pruritus are well known, but this cannot be strictly considered a dermatosis. Pancreatic disease, however, manifested as diabetes, is, in most cases at least, the etiologic factor in the production of lesions of xanthoma diabeticorum—the small, reddish, papular lesions, capped with a chamois-yellow top which appear by predilection about the elbows, knees and buttocks. These patients are glycosuric subjects, are generally stout and are quite readily cured by correction of the glycosuria. In some instances lesions coalesce and become large and nodular depots of fat, and not cholesterol as Wile and his associates have shown. When these patients are placed on a diabetic diet, absorption of these fat depots occurs, only to return when a normal diet is resumed.

In connection also with diabetes is the well known tendency of these patients to have a low resistance to pyogenic bacteria, often resulting in severe furunculosis or carbuncle. In women especially there may be a severe pruritus of the genitalia due to irritation of the glycosuric urine and to local irritation and decomposition—all of these dermatological lesions, however, readily yielding to treatment upon correction of the underlying primary diabetes.

If one may consider the blood and hematopoietic system as one of the internal organs, the diseases of this first class may be considerably enlarged as there are several dermatoses which can be definitely connected with changes in the elements of the blood.

In leukemia cutis, either with or without a change in the leucocytosis of the blood, there is a variety of dermal lesions—often a severe pruritus preceding or accompanying the cutaneous manifestations, and in some cases being the only subjective symptom present, appearing then as an essential pruritus. There may even be an absence of leucocytosis and lymphadenitis and the

* Read before the Toledo Academy of Medicine April 19, 1929.

**Dr. R. C. Jamieson is a graduate of the Detroit College of Medicine, 1903. Professor and head of the Department of Dermatology, Detroit College of Medicine; Attending Dermatologist to both Harper and Receiving Hospitals, Detroit, Michigan.

pruritus would appear to be of undiscovered etiology until the other symptoms of the disease appeared. This should be kept in mind in young adults with anemia, who are evidently sick but have no demonstrable dermatitis, and a careful search made for adenopathy.

The dermal lesions in lymphatic leukemia may appear in a variety of forms from maculo-papular to small nodular intracutaneous lesions that are yellowish-brown or brownish-red in color, appearing especially on the face and extremities.

If we are to accept the classification that would comprise a group of related diseases, we can include the dermatoses of this type, the skin lesions of pseudoleukemia and granuloma fungoides with its variegated lesions ranging from erythematous, eczematous and parapsoriatic plaques in the early stages to the fungoid tumors of the terminal phase. It is generally considered at present that there is an inter-relation between all these diseases and it has been suggested that they are all a malignant disease of the blood and can be grouped as lymphoblastomata, the essential etiology being still unknown.

Many cases that are clinically some variety of the leukemic state may be without specific blood changes even late in the course of the disease and diagnosis may be made only on section of the lesion.

The group of inflammatory diseases composed of lichen planus, psoriasis, seborrhoeic dermatitis, eczema and dermatoses that are a mixture of these diseases, embraces a large percentage of dermatoses about which little is known with regard to their etiology and relation to internal disorders.

In the case of lichen planus there are many who incline to the theory of an infectious process with a change in therapy from arsenic to mercury although some of the French still regard arsenic in the form of neoarsenobenzol as the best form of treatment. Many reports are appearing at present in which roentgen ray treatment is advised, particularly in generalized lichen planus, over the spinal area. While many good results have followed this treatment in the relief of pruritus, temporarily, at least, it does not clarify the question of etiology which may still be an infection or some change in the nervous system.

Likewise with psoriasis, it may still prove to be of an infectious nature, though there are so many reports of conflicting nature in which patients were cured or improved by a wide variety of methods, that this dermatosis might almost be classed with eczema in that respect. When one considers that psoriatic lesions may temporarily disappear with such treatment as chrysarobin, arsenic, typhoid fever or vaccine therapy, ultra violet or X-ray therapy, thymus stimulation, various gland extracts, removal of foci of infection in teeth or tonsils, dietary changes, climatic changes, etc., it does not seem possible that it can be due to any single agent of an infectious nature. It should also be remembered that there may be a familial tendency to develop the disease, but it is never transmitted by external contact. It might be considered as a parakerototic change in the superficial epidermal layers, this change being the result of some disturbance of the central mechanism of the skin control with an underlying toxic state due to possible endocrine change or focal infection.

While seborrhoeic dermatitis is not considered a very important disease in general, it is quite capable of becoming extremely annoying. A case that is clinically seborrhoeic dermatitis may cause inflammatory areas of varying degree on the trunk, face or scalp which may last indefinitely as such, or may even change in character later into a dermatitis exfoliativa, granuloma fungoides or appear as a mixture of all the diseases of this group. If one may speculate regarding the etiology of this rebellious disease, it is possible that the cause may be an infection only, but more than probable that, granting the infection theory, there is an underlying change in either the sebaceous glands themselves or in their secretion, which allows the infection to occur. Many organisms have been reported as the cause of seborrhoeic dermatitis and its related diseases—seborrhoea, pityriasis capitis and alopecia, but the etiological relationship has not been proved. The sebaceous gland changes might be analogous to the changes occurring during puberty and might conceivably be due to stimulation of some of the endocrine glands with secondary infection by micro-organisms that might usually be considered nonpathogenic.

Eczema is still considered by many the junk pile of dermatology, but, though often a misnomer, it is still a most expressive and descriptive name for a group of diseases for which we can find no better name at present. It is also understood by the laity and many a patient is often satis-

fied to be told that he has eczema but would be horrified if told it was anything else.

One by one certain clinical types are being extracted from the confused array as the etiological factor is being discovered, the latest being eczematoid dermatitis of ringworm origin. There are still, however, a large number of cases in which the clinical symptoms are clearly of the eczematous type, but for which no cause is discoverable. That is, there are burning, itching, weeping, redness and swelling—all the classic symptomatology—but no reason for them, and it has been suggested that those cases of this group be called "eczema" if the etiology is unknown, but otherwise "dermatitis" with a qualifying adjective to explain the origin.

It is chiefly with the unexplained type that we are dealing at present as we believe that infantile eczema (most types), is due to some error in diet, an excess of sugar, protein or fat, a faulty digestion of one or the other, or a true sensitization to some one or more articles of food. If this faulty digestion or sensitizing substance is corrected or removed, the eczema is cured, but it often happens that there is residual amount of dermatitis in the cubital, axillary and popliteal spaces which remains for years and later on changes into the lesions of lichen simplex chronicus type, a neurodermite, extremely pruritic and most rebellious to all treatment and obscure as to etiology. I often feel that this is a true dermatitis of nerve origin as there are so many fluctuations corresponding to the patient's general nervous state as well as atmospheric and climatic changes—probably an indirect result.

After eliminating dermatitis or eczema due to all sorts of irritation, plant, chemical, clothing, occupation, etc., the innumerable and ever increasing cases of eczematoid dermatitis of ringworm origin, we have still to consider those countless cases in which no infecting agents can be discovered nor can any external factor be found to produce the clinical symptoms. When all other things fail—elimination of food—toxins, protection from irritation, absence of infection, lack of organic visceral disease—we still have two possible sources of the disease, namely, focal infection and a functional or organic change in the endocrine system. The possibilities of the latter are so numerous that it is quite hopeless to go into the question thoroughly, but it is quite within the bounds of probabilities that there will come to be recognized a type of eczematoid dermatitis whose etiology will be intimately connected with the nervous system. Focal infections of all types—sinus, teeth, tonsils—should receive their due consideration, not only as direct but as indirect causative agents in the production of all dermatoses of obscure origin.

All the dermatoses in this group may be influenced by changes in one or more of the endocrine glands as shown by many reported cases in which lesions disappeared following the administration of one or more of the various gland substances—the favorites being ovarian and thyroid extracts. But up to the present we have no distinguishing clinical characteristics which would point to one gland more than another and must rely on the general symptom complex and employ the basal metabolism test for endocrine function.

Theorizing on the causal relationship between the ductless glands and dermatoses leads on indefinitely, but it is well within the limits of possibility that at some future time not only will this relationship be known, but some satisfactory method of treatment evolved whereby a hyperfunctioning gland may have its activities reducted and a hypofunction be stimulated. Some of the changes in the skin and especially the appendages are considered by many to depend on the endocrine function and others may be due to inherited defects which could not be remedied by any form of treatment known at present, among them being hyper-and hypotrichosis and ichthyosis. The latter, while probably a congenital defect, is often regarded as a symptom of thyroid change on account of the frequent dry, pruritic skin in thyroid patients, but it does not necessarily follow that a dry skin of the ichthyotic type necessitates a lack of thyroid secretion.

The symptom complex of hypo- and hyperpituitarism is well known as exemplifying the influence of gland secretion on the hair growth in producing hypo- and hypertrichosis, but while the pituitary secretion evidently plays the major part in the control of hair growth there are other factors in heredity that only can explain the excessive growth in otherwise apparently healthy individuals. Until we have some means of control of the function of this gland, those with excessive hair development must obtain relief by local mechanical measures.

One of the diseases of the hairy portions of the body which has an unsolved etiology is alopecia areata. This lesion appears as a

rule more or less suddenly, in small or large rounded areas, single, multiple or even generalized—rarely universal. The skin of the areas involved may be pinkish but appears normal otherwise. It has been reported to have occurred in otherwise healthy individuals who had been subjected to severe nervous strain, shock or fright, the lesions developing soon after. The mode of epilation suggests a nerve disturbance as the immediate cause of the alopecia—possibly comparable to the action of thallium acetate—and one might readily conceive of some unknown infection which could act on the nerve trunks supplying the affected areas. Toxins from focal infections of teeth and tonsils as well as dental fillings have been suggested as possible causes. The endocrine function may be at fault in the severe generalized cases in which the hair does not return or returns only partially.

Changes in the pigment of the skin are very little understood etiologically, but are generally regarded as secondary to internal changes of some type—probably in the adrenals. Albinism and vitiligo are probably due to heredity and a possible trophoneurosis respectively, though heredity may be a possible factor also in vitiligo. Aside from the known fact that a vitiligo at times is due to syphilis or will sometimes follow a secondary syphilitic exanthem, there is nothing known of the etiology though one may argue that it may be a converse problem of increased pigmentation in which certain internal organs may be at fault—namely, the uterus and adrenals. Involvement of the adrenals may also be accompanied by generalized pigmentation as in Addison's disease, and in the majority of instances of acanthosis nigricans and there has been an associated cancerous involvement of the abdominal sympathetic system or viscera. According to Darier's theory this is accomplished by intraperitoneal pressure which implicates the nerve structures of the sympathetic system and interferes with their normal function. The type of pigmentation mentioned in connection with Addison's disease is often referred to as a bronzing of the skin and is chiefly on covered portions of the body, in contradistinction to the bronzing of the skin on exposed surfaces which may be encountered in diabetes.

A rather common yet very distressing dermatosis is urticaria, common "hives", and with its usual etiology has no place in this discussion, yet the chronic urticaria is often due to internal disorders of a very obscure type. Ordinarily depending upon sensitization to one or more foods, urticaria promptly disappears upon removal of such foods or toxic substance circulating in the blood. The type that causes the greatest difficulty, however, is that which appears at any time, regardless of food toxins and has an etiological factor which remains undiscovered even after refraining from all possible foods and having all manner of skin sensitization tests performed. If allergy be eliminated as the cause, there remain two other factors, nerve exhaustion induced by emotional, physical or mental exertion, or thyroid intoxication—either together or singly. We are all unfortunate enough at times to encounter these cases and the sufferer continues to scratch until it is discovered that a rest cure or removal of a toxic thyroid had eliminated the pruritus. One report is made of disease of the biliary tract being the cause of urticaria in 50 per cent of a series, the cause of an additional 30 per cent of the same series being definitely determined by sensitization tests. Of a similar nature to urticarias of this type is that intensely pruritic disease, dermatitis herpetiformis, appearing in groups of small and large vesicles distributed generally over the body and limbs. Mental strain, shock, nerve exhaustion, worry are all factors in the production of this disease and it often occurs that the functional cause is proved by cure after the nervous system has returned to its normal functioning state following removal of the mental stress.

In an increasingly large number of dermatological diseases we are not content to treat the lesions and regard them as purely local manifestations, but we attempt to go a little farther and try to connect the dermal lesion with probable or possible internal functional or organic change. In all cases, however, the inter-relation is variable, very vague in some, in others quite pronounced and very evident. This is true in rosacea, with or without acneform lesions, as most cases are due either entirely or chiefly to some disturbance of gastric digestion. In at least half the cases there is a hydrochloric deficiency and administration of this drug produces improvement or cure in even more than that proportion. In addition to local treatment, the cure of rosacea depends upon the discovery and cure of the gastric abnormality.

In essential pruritus it may be of interest to note that the sweat of patients with pruritus has a higher sodium chloride, urea and uric acid content than normal and

that the sweat glands act as a substitute for the kidneys. It is also suggested that this type of pruritus could be treated by diuretics, restriction of sodium chloride, meat, etc. In general, however, pruritus is symptomatic only.

In passing from probabilities to possibilities, we have open an inexhaustible field for conjecture, especially when we consider the relation of dermatoses of unknown origin to some possible endocrine change. Many dermal changes occur with sufficient frequency to enable us to link them with one or more endocrine glands, but with the interdependability of these organs, one cannot say that disease of a single gland is the etiological agent.

A dry, lusterless skin, drying and loss of hair with dry, rough, friable, ridged nails are often seen as an accompaniment of a hypothyroid function. A hyperfunction, on the other hand, may be attended by a thin, warm, smooth and moist skin with a tendency to transitory erythematous areas on the neck and upper chest.

Changes in the pituitary secretion are also credited with a possible relationship to scleroderma and vitiligo and at puberty the endocrines play a part at least, in the production of acne vulgaris by producing oversecretion of the sebaceous glands, the lesions being then subjected to the concomitant action of the acne bacillus and the staphylococcus.

Considering the comparatively large number of individuals with pulmonary tuberculosis, tuberculous lesions of the skin are very uncommon resulting from the primary focus in the lung. Lupus vulgaris may have a possible origin in pulmonary tuberculosis, but scrofuloderma, tuberculosis cutis orificialis, the toxico- or para tuberculids (including acnitis, lichen scrofulosorum, lupus erythematous disseminatus, erythema induratum) I believe are generally admitted to be present in tissues of a tuberculous subject, though not directly tuberculous.

In a consideration of this inter-relationship from the viewpoint of the internist, it does not necessarily follow that a gastric or abdominal carcinoma of any type must be accompanied by acanthosis nigricans, Addison's disease or any pigmentary change whatever. Diabetes may run its course for years, even to its termination, without any dermal lesion ensuing, the kidneys probably would never cause any dermatoses in spite of marked disease, the intestines are not incriminated except as the seat of a toxemia, nor is the liver except as the originator of jaundice. The uterus and ovaries although often diseased are seldom mentioned as factors in dermatoses and with the exception of pulmonary tuberculosis, the lungs are innocent.

Eliminating the more or less acute diseases in which we feel confident a bacterial or fungous organism is the active cause, there remains a large number of obscure dermatoses, some serious, some of minor or only academic importance, which we in our present state of knowledge can only say have an unknown origin or are due to some unknown obscure endocrine dysfunction. Only time and the investigations of his slave, man, can tell whether these conclusions are correct and the problem Q. E. D.

ETHICS IN OPHTHALMOLOGY

We are living in an advanced age asserts Edward B. Heckel, Pittsburgh. Progress is so rapid that it seems wise to pause for a moment in this mad rush to indulge in a bit of introspection. While we progress in material things we should not lose sight of the fact that certain fundamentals are as a solid rock, firm and stationary. We must ever remember that we belong to an honorable profession which has for its chief function service. Our profession is not a business, for the chief function of a business is to make money. If a business does not make money, it fails and falls by the wayside. Sometimes Heckel fears that spirit of commercialism which inspires an occasional colleague to take advantage of many appliances and apparatuses of precision, using them only for their psychic effect on their clientele rather than for the practical, scientific benefit of the patient. No matter what is done or what is given, as long as it is for the benefit of the patients, it is proper and ethical; but if any of this is done solely for one's own benefit or for the benefit of one's purses, it becomes blatant quackery. What is good ethics for the East is, and should be, good ethics for the West, the South or the North; yet it is to be regretted that the profession is not a unit on this subject. In the medical society a man's colleagues may have an opportunity to judge him and properly classify him. The proper place for the physician to begin to bring himself to the attention of his colleagues is in the local county medical society, which, after all, is the foundation of medical organization. When a man is able to do his work a bit better than his neighbor, the world will be ready to take notice of him and his proper reward will follow. The optician occupies an important place, but he should stick to his last and maintain his proper relationship to the medical profession just as the druggist or pharmacist does. Is it not time for us, as members of this section of the American Medical Association, to rededicate ourselves to the noble principles of right, justice and ethics laid down by our illustrious predecessors?—Journal A. M. A.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., Commissioner
LANSING, MICHIGAN

THE NINTH ANNUAL PUBLIC HEALTH CONFERENCE

The Ninth Annual Public Health Conference will be held in Lansing on January 8, 9 and 10, 1930, with headquarters at the Hotel Olds.

Each year for the past eight years the Michigan Department of Health and the Michigan Public Health Association have joined in conducting a conference intended primarily for community leaders in public health. The average attendance of 300 has been made up of physicians, health officers, public health nurses, and interested laymen. Effort has always been put forth to include on the program topics of especial interest to each of these groups.

This year there will be three symposium programs, one on diphtheria prevention, one on meningitis control, and one on school health problems. These were purposely arranged to give opportunity for expression of local opinion and experience. Health officers and public health nurses from various sections of the state will discuss the topics from the viewpoint of their communities.

So much interest centers around scarlet fever, especially in the matter of immunization, that the Friday morning session at which this subject will be discussed by Dr. Kiefer will doubtless be one of the largest in point of attendance. Smallpox, another problem of especial concern at the moment, appears on the same program. A. Parker Hitchens, whose work in smallpox control in the Philippines is too well known to need comment, will talk about the measures employed there.

Recent research in nutritional anemia with special reference to its practical application in anemia of infancy, adolescence, and pregnancy is expected to be a popular topic. Maternal mortality in Michigan, the state's stream pollution program, the organization and administration of county health departments, health teaching in the schools, and mouth hygiene with special reference to developmental defects will be some of the other subjects discussed.

Complete program of the Conference will be furnished upon request, and physicians are cordially invited to attend any of the sessions.

RECENT TRENDS IN SERODIAGNOSIS OF SYPHILIS

Observations of blood hemolysis by Landios in 1876 and especially by Bordet in 1898 no doubt stimulated the research which eventually led to the development of the classical Wassermann test in 1906. Credit for this test, however, must be divided inasmuch as Gengou, Ehrlich, Morgenroth, Bauck, Altoff, Neisser and others published data which approach, if they do not surpass, in value those of Wassermann himself. In fact, Wassermann can claim only a very doubtful priority for his publication, as Detra published a paper on the complement fixation test for syphilis just two weeks after the work of Wassermann and Neisser appeared. For some time it was thought that the reaction was an adaptation of the then well known complement fixation reaction of Bordet and Gengou requiring only a *specific* syphilitic antigen. However, in 1907, Weygandt showed that the Wassermann antigen was not necessarily specific since positive reactions occurred equally well when aqueous extracts of normal guinea-pig spleen were used as antigen. These rapid early developments are indicative of the general trend of the efforts to improve the methods for serodiagnosis of syphilis. They have been followed by so many modifications that today we have almost as many methods as we have laboratories attempting to aid in the diagnosis of this disease.

Flocculation or precipitation methods for the detection of syphilis have a record similar to that of the Wassermann reaction with respect to the number of variations as well as to the duration of the period during which such tests have been under investigation. Michealis in 1907 reported a precipitation reaction for syphilis in which the antigen used was prepared from syphilitic tissue. Jacobstahl, as well as Bruck and Hidaka, were still employing syphilitic liver in their respective precipitation tests as late as 1911. In 1915 Hecht evolved an antigen to be employed for both Wassermann and precipitation procedures. His antigen was non-specific, being an alcoholic extract of heart muscle. Other workers, among whom Meinicke, Sachs-Georgi, Muller, Dreyer, and Ward, and Vernes are outstanding, made important contributions to the development of a dependable flocculation test. However, not until Kahn brought forth his test in which undiluted serum, agitation to eliminate incubation, and other unique features were brought into

play, did a precipitation method gain any general recognition.

Kahn's studies on precipitation began in November, 1921. From then until October 15, 1925, about 175,000 comparative Wassermann and Kahn tests were run at the Michigan Department of Health with such favorable results that on the above date complement fixation methods were replaced by the Kahn precipitation test in the laboratory of the Michigan Department of Health, an action which may be considered in view of its consequences as one of the greatest advances in the serodiagnosis of syphilis occurring in recent years. The great good which came from this radical change was not necessarily that a better test was adopted or that expenses were materially reduced, but that a precedent was established which made possible the opportunities for future research.

During the last few years the literature has been filled with reports of comparisons between Wassermann and flocculation tests. Time does not permit going into detail in these comparisons, but in order to present the problems at present confronting the workers engaged in improving these diagnostic aids, it is necessary to touch upon some of the more outstanding studies. There are two conditions which detract from the value of these comparisons as they are usually carried out. First: In a majority of instances the results obtained with a new test have been compared with those resulting from the use of a previously accepted method, usually some modification of the Wassermann or flocculation tests. Since it is certain that the best tests are far short of agreement with the clinical diagnosis it becomes obvious that the only valid comparisons must take into consideration the clinical condition. Second: It is unfair for investigators thoroughly trained in the use of one method to attempt to apply a second test in which their technique is inadequate in an effort to make a comparison. The only just procedure would be for two workers, each a specialist in his method, to work with identical material. This, as will appear in the remainder of this paper, is the procedure which has been adopted in making the major contributions of the past eight years.

Realizing the value of a comparative study of different serum reactions in syphilis, the League of Nations, under the direction of the International Conference on the Standardization of Sera and Serological Tests, invited six distinguished workers from six countries of Europe, employing their respective methods, to examine seventy-two carefully selected sera. The following methods were employed: Wassermann, Sigma, Sachs-Georgi and Meinicke. The results were rather unsatisfactory, as may be judged by the words of the committee. "The flocculation reactions are to a certain degree superior to the Wassermann test, but, on the other hand, this comparison demonstrates the existence of great differences in the results obtained by the investigation." Because of these divergences, the Health Committee decided to hold a conference at which the investigators would be able to make tests on the same sera at the same time and in the same place. A serologic conference was held in the State Serum Institute, Copenhagen, from November 19 to December 3, 1923. This procedure of "getting together" for the comparative tests was, no doubt, an improvement over the old method, yet, as will be shown later, was not without its drawbacks.

As this first Serologic Conference in Copenhagen, the work was carried out by nine workers and their assistants from seven different countries, three being from Germany and one from each of the following countries—Great Britain, Poland, Belgium, Denmark, Austria, and France. Five hundred thirty-six sera were tested during ten working days, employing the Wassermann test with several modifications, and three flocculation tests, namely, Sigma, Sachs-Georgi, and Meinicke.

Included in their summary were the following statements: "The Bordet-Wassermann test yielded in this conference the uniformly greatest number of positive reactions in known cases of syphilis. No unspecific results whatever were obtained by certain of the investigators, and on the whole, results which were possibly unspecific occurred very rarely. The flocculation tests cannot at present replace the Bordet-Wassermann test. It must, however, be emphasized that in the course of the present conference they have yielded positive results on a certain number of cases of syphilis in which the Wassermann was negative." Therefore, the conference held in Copenhagen in 1923 has gone on record as saying that the Wassermann test is superior to the flocculation test as applied to the sera which were employed at that conference.

In 1926 under the auspices of the committee on Standard Methods of the Amer-

ican Public Health Association and under the direction of a referee, Dr. Ruth Gilbert, 252 sera were tested in seven laboratories. Included in this study were complement fixation methods as employed by the New York State Health Laboratories, and that of Kolmer, as well as Kahn's Precipitation Procedure. The results obtained in this endeavor must have been most disheartening to those who took part as well as to others, as in the terms of Dr. Gilbert, only in 100 cases out of the 252 did those laboratories employing the complement fixation methods give uniform results and all but 18 of this 100 were negative reactions. Dr. Gilbert further states that the lack of uniformity of the results of the precipitation methods used in this study far exceeds the variations in the results obtained with the complement fixation methods. Judging from the data given, the complement fixation methods fared very badly, while the precipitation methods were even worse.

Because of the value of such comparative studies, a second laboratory conference on the serodiagnosis of syphilis was held at Copenhagen, May 21 to June 4, 1928, which brought together 37 distinguished investigators from 19 nations. These workers applied 16 different methods to 944 selected sera. This being the greatest unified study of laboratory methods for the diagnosis of syphilis ever undertaken, I would like to present in some detail the results obtained. Although some of the conclusions as given at the Conference are helpful, others are of a rather general and disappointing nature. However, a careful study of the data obtained reveals some very interesting and definite results.

Following are some of the resolutions in somewhat abstracted form as given by the Conference, together with brief discussions:

1. That the best of the flocculation tests may be regarded as equal in value to the best of those which depend on fixation of complement. To me this is the truth, but not the whole truth, as I shall endeavor to bring out later.

2. That in order to secure the most reliable information for the clinician, at least two different serodiagnostic methods should be used. Among the investigators at the Conference there was a difference of opinion as to whether one of these methods should be a complement fixation test. There is no doubt but that a second test should be made routinely on all sera coming in for laboratory aid in the diagnosis of syphilis. There seems to be no reason why one of these tests should necessarily employ complement fixation. It does seem advisable, however, that at least one and possibly two methods different from the one employed routinely should be kept in readiness in order that a study may be made on any serum giving an anomalous or unsatisfactory result from the standpoint of either the laboratory man or the clinician.

3. The third resolution was that the results obtained in the laboratory should be checked frequently by conferring with the clinician. This point is well taken, although it is next to impossible to follow it out in many laboratories.

4. That a uniform method of reporting be employed. The + sign denoting positive, the negative sign (—) as negative, and the +— as meaning neither positive nor negative. No one, I think, will question the advantage of a uniform method of reporting. However, employing only the three signs to distinguish the potency of the serum probably will meet with opposition, especially in this country, where it seems that the tendency is in the opposite direction, if we may judge from Kolmer's

COMPARISON OF TESTS ON THE PERCENTAGE BASIS

Summary of All Tests

	Clinical Syphilis				Non Syphilis			
	+++	+—	++ + +—	—	+++	+—	++ + +—	—
Complement Fixation	44.11	12.26	56.37	43.63	3.48	5.83	9.31	90.69
Flocculation	25.70	8.95	61.65	38.35	.61	3.77	4.38	95.63

COMPARISON OF INDIVIDUAL TESTS—SELECTED

	Clinical Syphilis				Non Syphilis			
	+++	+—	++ + +—	—	+++	+—	++ + +—	—
1. Harrison-								
2. Wyler	41.84	15.55	57.39	42.61	0	2.75	2.75	97.25
2. Kahn	61.12	6.61	67.73	32.27	0	1.15	1.15	98.85
Muller	63.54	9.01	72.55	27.45	.23	2.31	2.54	97.46

1. Complement Fixation.
2. Flocculation.

method of reporting, or from the quantitative aspect of Kahn's procedure.

Four other resolutions were given by the Conference, but are not reported in this paper because of their lack of importance.

In order that we might get a condensed picture of the results obtained at this Conference, totals were made of all the complement fixation methods and of all the flocculation methods, and comparisons made on a per cent basis, as shown in the above chart. Like comparisons were made between the best of the complement fixation methods and the best of the flocculation, as will also be noted in the above chart. Two flocculation methods are listed because of the difference of opinion as to which was the better.

Whether the strongly positive alone or the strongly positive plus the weakly positive are considered, the flocculation tests gave the most positives in those cases which were diagnosed as syphilis, and the least number of positives, when considering cases of non-syphilis. Therefore, the superiority of the flocculation tests on the sera studied at this conference is evident, and this is true whether the tests are considered collectively or whether the best of each are considered separately. However, it has been said in this country that the complement fixation methods employed at this conference failed to incorporate procedures that have been found to insure accuracy of results, and that had the Kolmer modification been employed, results would have been different. Whether this is true or not must be left to future conferences at which this or other American modifications are represented.

I would here like to quote statements of a prophetic nature from two leading serologists, one an exponent of complement fixation, the other an ardent supporter of the flocculation test.

Kolmer—"As far as my own experience is concerned in serology and likewise in clinical syphilology, I believe that there is still a great need for the complement fixation test."

Meinicke—"Some of the members of the Conference, (referring to the Copenhagen Conference last year), were already in favor of the flocculation test and against keeping the Wassermann test, and it was the impression at the Conference that, though the time has not come for discarding the Wassermann test, the probability was that we could do so, perhaps at the next conference."

It seems to me that the complement fixation method is and probably always will be an asset in the diagnosing of diseases other than syphilis. Even though there was no doubt in regard to the superiority of the flocculation tests as shown at the 1928 Conference, the complement fixation method as applied to the diagnosis of syphilis has and probably will continue to have value for a number of years. However, the problem that confronts us is not entirely which is the better test, but which test, or tests, is best adapted for future research and improvement. Improvements certainly have been made in recent years, and no doubt by comparisons, discussions, and other means, advancement will continue to be made. However, I believe that any great improvement will come only after some of the mystery surrounding the so-called reagin in syphilitic serum has been solved. This problem is purely chemical in nature, and probably no great advancement will be forthcoming until outstanding physical chemists are drafted into the field of serology. However, let us hope that those who are prejudiced in favor of the Wassermann test and those who are prejudiced in favor of and now sponsoring the precipitation methods may hold an open mind in regard to any future method which may increase the efficiency of serodiagnosis of syphilis.—M. B. Kurtz.

PREVALENCE OF DISEASE

November Report

Cases Reported

	October 1929	November 1929	November 1928	Av. 5 yrs.
Pneumonia	325	400	476	386
Tuberculosis	766	328	527	417
Typhoid Fever	53	31	39	65
Diphtheria	476	479	396	528
Whooping Cough	349	456	1,182	590
Scarlet Fever	723	989	977	929
Measles	444	649	133	360
Smallpox	170	272	70	68
Meningitis	85	57	27	12
Poliomyelitis	52	10	8	32
Syphilis	1,416	1,339	1,171	1,122
Gonorrhea	950	806	575	765
Chancroid	35	28	8	9

CONDENSED MONTHLY REPORT

November, 1929

Michigan Department of Health Laboratories

	+	—	+—	Total
Lansing Laboratory—				
Throat Swabs for Diphtheria	.....	.....	.....	1245
Diagnosis	38	561	.....	.....
Release	108	209	.....	.....
Carrier	20	309	.....	.....
Virulence Tests	19	3	.....	22
Throat Swabs for Hemolytic Streptococci	.....	.....	.....	629
Diagnosis	170	130	.....	.....
Carrier	32	297	.....	.....
Throat Swabs for Vincent's	97	503	.....	600
Syphilis	.....	.....	.....	8042
Kahn	1221	6719	89	.....
Wassermann	2	10	1	.....
Examination for Gonococci	202	1669	.....	1871

B. Tuberculosis				541
Sputum	72	468		
Animal Inoculations		1		
Typhoid				270
Feces		154		
Blood Cultures		52		
Widals	6	53		
Urine	1	4		
B. Abortus				56
Dysentery				41
Intestinal Parasites				30
Transudates and Exudates				318
Blood Examinations (not classified)				145
Urine Examinations (not classified)				153
Water and Sewage Examinations				749
Milk Examinations				61
Toxicological Examinations				3
Autogenous Vaccines				
Supplementary Examinations				344
Miscellaneous Examinations				506
Unsatisfactory Specimens				101
Total for the Month				15727
Cumulative Total (fiscal yr.)				85497
Decrease over this month last year				228
Houghton Laboratory—				
Examinations made — Total for the month				1887
Cumulative Total (fiscal yr.)				10092
Increase over this month last year				177
Grand Rapids Laboratory—				
Examinations made — Total for the month				7001
Cumulative Total (fiscal yr.)				31437
Decrease over this month last year				526
Typhoid Vaccine Distributed, c. c.				1330
Diphtheria Antitoxin Distributed, units				43171000
Silver Nitrate Ampules Distributed				8932
Scarlet Fever Antitoxin Distributed, Pkg.				182
Scarlet Fever Toxin Dick Test distributed, c. c.				940
Scarlet Fever Toxin Immunization Distributed				4240
Smallpox Vaccine Distributed, points				16165
Bacteriophage Distribtued, c.c.				3578

TRUTH ABOUT MEDICINE

NEW AND NONOFFICIAL REMEDIES

Digitos Ampules, 5 c.c.—Each ampule contains digitos (New and Nonofficial Remedies, 1929, p. 138) 5 c.c. H. K. Mulford Co., Philadelphia.

Luminal Capsules, 1½ grains—Each capsule contains luminal (New and Nonofficial Remedies, 1929, p. 81) 1½ grains. Winthrop Chemical Co., Inc., New York.

Metaphen 2,500—It contains 1 part metaphen (New and Nonofficial Remedies, 1929, p. 272) dissolved in 2,500 parts of water containing 0.33 per cent each of sodium bicarbonate and sodium carbonate. Abbott Laboratories, North Chicago.

Diphtheria Toxoid—Squibb—This diphtheria toxoid (New and Nonofficial Remedies, 1929, p. 368) is also marketed in packages of one 30 c.c. vial. E. R. Squibb & Sons, New York. (Jour. A. M. A., November 9, 1929, p. 1471).

Solution of Invert Sugar—Lilly—A solution of a mixture of dextrose and levulose, obtained by the inversion of sucrose. Solution of invert sugar —Lilly is used in the injection treatment of varicose veins. It is claimed that the use of sugar solutions such as solutions of dextrose or of invert sugar have the advantage over solutions of sodium chloride, sodium salicylate or mercuric chloride in that they do not cause severe cramps or sloughing if accidentally injected outside the veins. Solution of invert sugar—Lilly is marketed in ampules containing 5 Gm., 6 Gm., and 7.5 Gm., respectively, in 10 c.c. Eli Lilly & Co., Indianapolis.

UNDULANT FEVER

A specific treatment of undulant fever is not yet available. The use of serums has proved disappointing. Vaccines have given more encouraging results according to recent reports from the continent. In particular, an antigen prepared from dried *Brucella abortus* has seemed efficacious in a small number of cases. In this country the use of acriflavine hydrochloride has been suggested to shorten the duration of the disease. (Jour. A. M. A., November 9, 1929, p. 1475).

POTENCY OF ARSPHENAMINE

There is no official standard for therapeutic potency of arsphenamine preparations. According to reports of the United States Public Health Service Hygienic Laboratory, no one brand has been definitely established as superior to others when considered from the point of view of clinical efficiency. In some foreign countries, every preparation of arsphenamine and neoarsphenamine is tested on mice for therapeutic efficiency before being used. (Jour. A. M. A., November 9, 1929, p. 1495).

NEW ETHER TREATMENT FOR WHOOPING COUGH

Results obtained with a new method of administering ether in cases of whooping cough were described by Dr. W. Ambrose McGee of Richmond at a meeting of the Southern Medical Association. Ether has an antispasmodic action which physicians are trying to use to lessen the intensity of the paroxysms of whooping cough and also to shorten the duration of the disease.

While some scientists have tried hypodermic injections of the ether into the muscles, Dr. McGee found it more effective in relieving the symptoms of the disease than other methods of treatment now commonly used. By rather literally taking the whoop out of whooping cough, the small patient is kept from becoming so exhausted and therefore he can recover from the disease more quickly.

The ether injections gave more consistently satisfactory results than the various whooping cough vaccines, Dr. McGee reported. He also stated that this treatment is more successful the earlier in the disease it is started. For this reason he stressed the importance of early diagnosis of whooping cough and declared that a simple blood test combined with other examinations make it comparatively easy to arrive at the desired early diagnosis.—Science Service.

THE JOURNAL
OF THE
Michigan State Medical Society

PUBLICATION COMMITTEE
J. D. BRUCE, M. D., Chairman.....Ann Arbor
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B. H. VAN LEUVEN, M. D.....Petoskey

Editor
J. H. DEMPSTER, M. D.
641 David Whitney Bldg., Detroit, Michigan.

Business Manager
FREDERICK C. WARNSHUIS, M. D., D. Sc.
Grand Rapids, Michigan.

All communications relative to exchanges, books for review, manuscripts, should be addressed to J. H. Dempster, M. D., 641 David Whitney Bldg., Detroit, Michigan.

Contributors are responsible for all statements, conclusions and methods in presenting their subjects. Their views may or may not be in agreement with those of the editor. The aim, however, is to allow authors as great latitude as the general policy of The Journal and the demands on its space may permit. The right to reduce in length or to reject any article is reserved. Articles are accepted for publication on condition that they are contributed solely to this Journal.

All communications regarding advertising and subscriptions should be addressed to F. C. Warnshuis, M. D., Suite 1508 Grand Rapids National Bank Bldg., Grand Rapids, Michigan.

JANUARY, 1930

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

POST-GRADUATE CLINICS

The last post-graduate clinic, namely the Couzens Children Clinic, was held at the University Hospital, Ann Arbor, on November 26th. The amphitheatre of the hospital was filled to capacity to listen to the very instructive two hour address by Professor Julius H. Hess of the Department of Pediatrics, University of Illinois, Chicago. The lecture was a very practical one and with the lantern slide illustrations, the visiting doctors found it a very easy matter to take notes of statistical matter presented. Dr. Hess has very kindly summarized his two hour address so that we are able to publish the summary in this number of the Journal.

The demonstration of diet teaching to children by Miss Frances Floore, dietitian in the Department of Pediatrics and Infectious Diseases, was an interesting feature of the day's program. Miss Floore had a class of eight diabetic children, all under ten years of age. Questions were put to these children, the answers to which involved a knowledge of the clinical and dietetic phases of diabetes. These questions were answered very much to the delectation of everyone present. At the conclusion the children administered to one another the proper dosage of insulin. Miss Floore has in preparation a primer for the instruction of diabetic children in the intelligent management of their condition.

The afternoon session was opened by a presentation of the physician's responsibility in public health work, by Dr. Guy L. Kiefer, State Commissioner of Health. Dr. Kiefer discussed in a very intimate and appealing manner the importance of this work to the nation and the duty of each physician to the public, as well as the great privilege he has of rendering a worthwhile service to humanity.

Dr. D. M. Cowie outlined a simple, quick, routine plan for the taking and recording of the essential things in the history and physical examination of a sick baby and child. He pointed out the difference between infant, child and adult physical signs. He demonstrated a series of outline charts such as the busy doctor could carry in his pocket to record daily changes in the progress of a disease, and thus be kept in definite contact with the actual daily happenings. He pointed out how impossible it is for a very busy practitioner to remember all these details which are so essential in the proper care of a sick patient.

Dr. Cowie and several members of his staff demonstrated and explained the making of sensitization tests, and the interpretation of reactions induced by the scratch and intra-dermal methods; the technic of the Shick test, and the differentiation of a pseudo reaction. He called particular attention to the Dick test, emphasizing the care with which the test should be made, pointing out how failure to empty the needle of water after sterilization and how the use of tap water or alcohol for sterilizing purposes might alter the reaction, and how injecting the solution into the deep layers of the skin or beneath the skin will lead to false interpretations as to the individual's susceptibility to scarlet fever. The point was emphasized that the reaction must be read between 18 and 24 hours after injection. The carrying out of the Pirquet and Mantoux tuberculin test methods was described and demonstrated. Attention was called to the character of their reactions after the elapse of varying

lengths of time since injection, and to the clinical significance of the test, pointing out what type of test was of value in diagnosis, and the relative unimportance of the test in older children and adults. An appeal was made for special effort to determine tuberculin sensitivity in babies and young children. It was pointed out that tuberculosis in babies is very much more common than has been supposed, and it was intimated that tuberculosis recognized early in an infant could be cured and that in such cases immunity probably life long.

Dr. Cooperstock presented a workable classification of the nephritides of infancy and childhood. He especially pointed out that the sub-acute or chronic glomerular nephritis characterized by blood, albumin, casts, edema and other manifestations of true nephritis often progresses into the stage of nephrosis, during which time many of the cardinal manifestations of nephritis are absent, but the patient continues to show edema and the urine shows large amounts of albumin. This form seems to be more common in children than in adults. Its treatment seems to be the reverse of that usually used for nephritis; namely, a comparatively high protein intake is the best diet during this stage of the disease.

The next clinic, made possible likewise by the munificence of the Couzens Fund, will take place at the Hurley Hospital, Flint, Mich., on January 15th. A detail program of this Clinic appears in this number of the Journal.

The Couzens Fund as is generally known has been set aside for the benefit of children in the broadest sense. The children who are most in need are those who enter life under a health handicap. The eagerness with which physicians availed themselves of the first Couzens Fund Clinic is evidence that in the establishment of this kind of post-graduate instruction the spirit of the foundation is being fulfilled to the best advantage.

STATE MEDICINE

Before entering upon any enterprise or important venture the wise man always sits down and counts the cost. Have we sufficient data at hand to form any adequate estimate of what the adoption of state medicine would mean to the state? One of the largest hospitals in Detroit is kept up by the municipality for the avowed purpose of taking care of the indigent sick. The estimates for current expenses for the fiscal year ending June, 1930, for this institution, including two other smaller institutions which are also supported out of municipal taxation, is $2,202,828.00. This sum includes only what may be included as the annual expenditure or upkeep. It does not include any part of the cost of the original buildings nor of extensive alterations that may be found necessary. The sum in itself appears to be quite large and yet it does not include the salaries for doctors (apart from superintendent and assistant superintendent and two or three part-time physicians) which would be necessary under a system of state medicine where all doctors would be placed upon the payroll of the state or municipality as the case may be. While this hospital is large and well equipped, it is only one of a half dozen large hospitals caring for the sick. If an attempt were made to organize hospitals under a system of state medicine, the cost in public taxation would be simply enormous, as it would include also huge salary appropriations for attending physicians and surgeons.

There is a special kind of hospital which has been long in existence performing a service, namely, the care of mental cases, which has been long recognized as the legitimate function of the state. An appropriation of something like $24,000,000 has been recently sought for the further extension of such hospital facilities. What is commonly known as "state medicine" does not apply to institutions for the care of feeble-minded and other mental cases.

Now, on the other hand, while state medicine would mean a greatly increased burden in taxation, it would mean also for the individual doctor that he would be required to work on a salary, that the salary would be regulated according to the law of supply and demand, that also at a certain age he would be liable to dismissal in favor of younger or more recent graduates, that on the whole his independence and individuality would vanish. The old-time contact of physician and patient, which has meant so much to the public in case of illness, would be no more. The doctor as a confidant, friend and advisor, would be sacrificed for institutional service. This latter circumstance would be, we believe, greatly deplored by the great mass of intelligent, self-respecting people, who are already beginning to feel that the family doctor is passing.

DR. VICTOR C. VAUGHAN

To those physicians who have been in practice in this state for over a decade, Dr.

Vaughan's name is more in the nature of a household word. A large number of them have sat in his classes and have had the advantage of that personal contact of teacher and student. To others he has been a more or less familiar figure, not only at the annual meetings of the Michigan State Medical Society, but at many other medical meetings as well. Dr. Vaughan's long career has been one of great activity. He combined the mind of the research student with that of the politician (using the word "politician" in its better sense, of the extrovert mind which is capable of impressing itself upon large groups.) The list of positions which Dr. Vaughan held that were in the gift of his fellow professional men is a formidable one. Apart from his position as Dean of the Medical School of the University of Michigan, he was a former president of the American Medical Association, of the Association of American Physicians, a member of the National Academy of Sciences, three times chairman of the Division of Medical Sciences of the National Research Council, and a member of the Typhoid Commission during the Spanish-American War. During the World War he held the rank of Colonel in the Medical Corps of the United States army, where he was in charge of communicable disease in the camps of the United States. Among his later achievements was the founding of the monthly journal, "Hygeia" published by the American Medical Association. Dr. Vaughan was therefore also a pioneer in public health education.

We shall not attempt to estimate Dr. Vaughan's influence upon American medicine. That has been accomplished in the interesting paper by Dr. C. B. Burr, who has proved a never-failing friend to this Journal when any request is made of him.

One contribution, besides the volume of medical literature from his pen, was his interest in the medical library of the University. Dr. Vaughan conceived very early in his career the importance of a first class library. He builded both wisely and well and as a result the Medical Department of the University library is one of the best on the continent, second only, we have been told, to the Surgeon General's library at Washington.

Since his retirement, Dr. Vaughan has written an autobiography entitled, "A Doctor's Memories." This work, written in a charming style, gives a very interesting pen picture of the author.

A BORROWED THOUGHT*

"If a man builds a house and leaves it exposed to the sun, the wind, the rain, the frost, it will, from the very moment when he ceases to put work into it, begin to decline; unless he continue to be a builder, to use paint and timber and cement as occasion arises; the elements will undo his work and all will return through destruction to nothingness.

"It may take only a few years, it may take centuries: but infallibly the creation of man's hands will deteriorate and dissolve unless man's hands continue to be creative. His works may last as long as the Pyramids or be destroyed in a season like a breakwater in a storm, but peace is never declared between them and the elements, and unless man fight he must be defeated.

"This is as true of a man's character and of a man's profession as it is of his monuments and his houses. Unless he goes on creating and contructing new forms of service in his profession they will infallibly succumb to the inertia which lies like the sea round every effort of man's spirit.

"Most of us have seen with regret the young man who, perhaps, after leaving public school or university, slowly declines from progress to stagnation, from stagnation to deterioration, because he has allowed to die within him the determination to build a finer personality. He thinks his education was complete when he took his degree, and he ceases to strive. He becomes less ambitious, less interested, and finally even less intelligent."

* This is an extract from an article which appeared in the London Times. It contains such a striking sentiment, so well expressed that it is given editorial prominence.—Editor.

THE THYMUS

In this number of the Journal appears a symposium on the thymus gland, presented at the last general meeting of the Michigan State Medical Society. These papers should be read by everyone, inasmuch as the mystery of the thymus (for want of a better expression) concerns almost every department of medicine or surgery. The symposium is particularly inclusive and well balanced. Dr. Clement A. Smith gives an excellent review of the literature, particularly historic, on the subject, concluding that the function of the thymus gland has not yet been made entirely clear and that there is need for much further experimentation before it will be. Dr. W. C. C. Cole discusses the clinical as-

pects of diseases of the thymus in childhood. He concludes that there is very little evidence that the thymus plays any large part in diseases of childhood.

Dr. Cooperstock discusses the subject of enlarged thymus and status thymico-lymphaticus, reviewing 335 case records within the past 10 years. In 248 cases the diagnosis was made by the X-rays in the absence of clinical symptoms. Sixty-one presented such symptoms as cyanosis, dyspnea, holding the breath, stridor and convulsions. Dr. Cooperstock agrees with the other essayists that there is still much to be learned about thymic conditions. It seems that simple pressure by the thymus is not the whole factor in the production of the thymic syndrome, though simple enlargement evidently plays a large role. He notes a coincidence of thymic enlargement, status thymico-lymphaticus and adrenal pathology and predicts that this may prove an important factor in elucidating the clinical problem connected with enlarged thymus and status thymico-lymphaticus.

In the X-ray diagnosis of enlarged thymus the importance of lateral films has been stressed. Dr. Hasley describes studies of the thymus by means of serial or so-called "moving pictures," that is, several exposures made per second, which gives an opportunity for a functional observation of the heart and aorta. Two or three exposures per second are made so that respiratory movements do not materially blur the radiogram. (The apparatus and method have been devised by Dr. Hans A. Jarre of Detroit). This rapid serial method of examining the chest is undoubtedly the most accurate and should supercede the usual roentgenographic methods. The objection to its general use, however, is the cost, not only of highly complicated apparatus, but films as well.

All are agreed, however, on the method of treatment where indicated so as to eliminate the pressure symptoms. The X-rays have been found to be practically a specific.

TRAFFIC FATALITIES

This is a sort of perennial subject for editorial comment in both the daily and medical press. The Detroit Automobile Club has compiled statistics of accidents in fourteen counties of Michigan covering the first ten months of 1929. In only three of the counties studied has there been a decrease in the total number of fatal accidents occurring in 1929 over 1928. These counties are Kent, Kalamazoo and Calhoun. In all three counties the decrease in mortality has amounted to 14. Wayne county naturally heads the list in the number of fatal accidents, namely 441 in 1929, with 369 in 1928. The total number of accidents in 1929 in all 14 counties was 1,245; in 1928 1,060. These statistics apply to only those counties having more than 14 fatalities and are not taken to represent the total loss of life by accidents throughout the state.

There is no question but that a great many of these accidents could have been prevented and human life spared to usefulness. The drunken driver is a menace that should be eliminated from the streets completely. Also the moron and mentally defective should be refrained from using dangerous machines on the public highways. The report of the Detroit Automobile Club quotes approvingly an article from the Saturday Evening Post as follows:

"Too many judges are too lenient in their handling of persons convicted of drunken driving. Drags and pulls are too effective. The jail house for a lengthy period is the only punishment that will cure and prevent."

"Highway accidents occur in greatest number not on bad curves, or dangerous declines or inclines, or slippery pavements, at night, but on straight, level, dry sections during daylight hours. It is an illuminating commentary on the qualifications of the car driving portion of our population.

"Only twenty states consider the licensing of operators important. And in not one of these twenty is the test rigid. But whether their eyesight was normal, whether they were subject to epilepsy, or whether in other ways they were physically incapacitated, *there is no way of knowing.*

"It is not a question of employing more patrolmen or traffic officers or guards. It is simply a question of awakening operators to the danger of inattention, carelessness and discourtesy."

It is high time that greater care were exercised not only in the granting of licenses, but in the checking up of those who may have held licenses for a number of years. Here, at least, is a good place to begin.

No scientific discovery is accepted until it has been checked again and again by investigators working with the most rigorous and vigorous scepticism. At the court of science every prisoner is suspected until proved innocent by a cloud of witnesses before an implaccable bench of unemotional judges.—ADAMS GOWAN WHITE.

Our earth is degenerate in these latter days; there are signs that the world is speedily coming to an end; bribery and corruption are common; children no longer obey their parents; every man wants to write a book and the end of the world is evidently approaching.

—(From an Assyrian Tablet 2800 B. C.)

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

The Committee on Civic and Industrial Relations held a meeting in Detroit on December 9.

Dr. G. F. Inch has been appointed Medical director of the new state insane hospital to be built in Washtenaw County.

Dr. Guy L. Kiefer Health Commissioner of the State of Michigan addressed a meeting of the Hygienic Council of Ontario at Toronto Dec. 2

The offices of the Board of Registration in Medicine were removed on December first to 1010 Maccabee Building, Detroit.

The Annual Conference of our County Secretaries will be held at the A. M. A. headquarters in Chicago on January 22 and 23. See program in this issue.

In our next issue you will find a subscription blank for our Society's History, edited by Dr. C. B. Burr. It is hoped that it will be ready for distribution by April, possibly in March.

Mr. William J. Burns who has been for a number of years Executive Secretary of the Toledo Academy of Medicine has been appointed Executive Secretary of the Wayne County Medical Society to fill the position left vacant by the resignation of Dr. Earl Miller, who has resigned on account of ill health.

The Postal Life and Casualty Company of Kansas City, Missouri, is alleged to be circularizing the profession and others in this state.

They have not obtained permission to date to do business in Michigan and any policies issued by them "to residents of this State are illegal and not enforcible in the courts of Michigan" according to the Department of Insurance at Lansing.

Memorial Hospital at Owosso has been enlarged and improved during the past summer and fall, and has now a power plant and laundry equipped with the latest machinery to be had. The battery of boilers is fired by automatic oil burners, and the laundry has the newest of washers and mangles. A large ventilating and smoke stack was added to the plant and the dining rooms and kitchens in the basement have been enlarged and brought up to date. A complete refrigeration system in the basement and call system in the office were also installed. Altogether the improvements cost around $100,000.

DR. GEIB SUCCEEDS DR. FREUND

Dr. Hugo Freund of Detroit has resigned as member of the Detroit Board of Health. He has been succeeded by Dr. L. O. Geib. Dr. Freund had been a member of the Board of Health for thirteen years. Dr. Geib has shown an interest in public health work for a number of years having held the position of Diagnostician of Contagious Diseases for twelve years. He comes to the position well qualified and with the preventive medicine viewpoint which should be the possession of those engaged in public health administration.

DR. F. G. NOVY, PORTRAIT

The graduates of the school of medicine of the University of Michigan December 9 presented to the university a portrait of Dr. Frederick G. Novy, professor of bacteriology and director of the hygienic laboratory. On December 9 Dr. Novy was sixty-five years of age. Forty-three of those years he has spent as a member of the faculty of the school of medicine. The ceremony on the afternoon of December 9 was conducted in the Lydia Mendelsohn Theater of the Michigan League. Dr. Alexander G. Ruthven, president of the university, accepted the gift for the University. The portrait was painted by John Weiss of Cincinnati.

LOCAL A. M. A. COMMITTEE

The local committee on arrangements for the annual meeting of the American Medical Association which will be held in Detroit in June is made up of the following Detroit physicians: Dr. Rollin H. Stevens, chairman local arrangements; Dr. Louis J. Hirschman, and Dr. A. S. Brunk, vice-chairmen of committee on arrangements; Dr. H. W. Plaggemeyer, Treasurer; Dr. L. T. Henderson, secretary; Dr. A. W. Blain, entertainment; Dr. Basil L. Connelly, registration; Dr. James E. Davis, scientific exhibits; Dr. Fred M. Meader, technical exhibits; Dr. William C. Lawrence, hotels; Dr. Frank J. Sladen, section; Dr. R. J. Palmer, finance, and Dr. Charles E. Dutchess, publicity and printing.

MICHIGAN WELL REPRESENTED

The Fifteenth Annual Meeting of the Radiological Society of North America met for the first time on Canadian soil, namely at Toronto, the first week in December. In the fifteen years of its history this society has grown to be one of the largest societies of its kind in existence. The program was well represented by Michigan men. Among those who presented papers were Drs. J. T. Case, formerly of the Battle Creek Sanitarium, W. J. Cassidy of Detroit, H. P. Doub of Detroit, P. M. Hickey of Ann Arbor, H. A. Jarre of Detroit, C. S. Oakman, formerly of Detroit, E. A. Pohle formerly of Ann Arbor, A. E.. Schiller of Detroit, R. S. Stone formerly of Detroit, and W. O. Upson of Battle Creek. Michigan was well represented by other members of the profession who were not on the program. Dr. Alden Williams of Grand Rapids had charge of the scientific exhibit.

HONORING PROF. IVAN P. PAVLOV

The Bulletin of the Battle Creek Sanitarium and Hospital Clinic for October which has just come to hand, contains 219 pages. It is a special number gotten out in honor of Professor Pavlov the noted Russian Physiologist. The contents of

the volume consist of papers by Pavlov's pupils, friends and admirers. It opens with a word of greeting by Dr. Vernon L. Kellog, noted biologist, then follows an interesting article by John Harvey Kellogg, M. D., of the Battle Creek Sanitarium describing a visit to Pavlov's laboratory. Following this is an interesting paper entitled "I. P. Pavlov as a Scientist" by W. N. Boldyreff, M. D. Dr. Boldyreff is at present Director of the Pavlov Physiological Institute of the Battle Creek Sanitarium. There are in all twenty-nine contributors including some of the most noted names in science of medicine. The volume is well illustrated with half-tones of the noted physiologist together with pictures of himself with groups of his co-workers. The Battle Creek Sanitarium is to be congratulated on the production of this volume.

THE TRUE STORY OF ACTEROL

(For additional details see the Mead Johnson announcement in this issue and also watch for special color supplement, Journal American Medical Association, January 18. All Mead Products are Council-Accepted.)

Chemists call it by its correct chemical name, *solution activated ergosterol* — the name by which Mead Johnson & Company first supplied it.[1] The largest manufacturer of rare sterols in America, early having activated cholesterol[2] (1925), being first to commercially produce pure ergosterol[3] and to standardize activated ergosterol[1 4] (October, 1927), seeking to protect themselves and the medical profession against substitution, Mead Johnson & Company coined the name "Acterol" — signifying "activated ergosterol." The Council on Pharmacy subsequently coined a name, "Viosterol." As servants of the American Medical Profession, this Company cheerfully defers to its wishes and now call its product Mead's Viosterol in Oil, 100 D. The product remains the same: only the name is changed.

1. Biol. Chem., 76:2.
2. Ibid., 66:451.
3. Ibid., 80:15.
4. Ibid., 75:251.

A CENTURY OF ANATOMY

Professors of anatomy in seven of the leading medical departments of American universities are collaborating in a study of methods whereby anatomical research during the past hundred years may be graphically represented at the Chicago Century of Progress celebration in 1933. The universities represented are those of Chicago, Minnesota, Illinois, Michigan, Northwestern, Cornell and Johns Hopkins. The anatomy exhibits committee has just been appointed by its chairman, Dr. R. R. Bensley, professor of anatomy at the University of Chicago. Dr. Bensley is a member of the National Research Council's Science Advisory Committee which is charged with the task of formulating a science theme for the Chicago exposition. Forty or more other groups of scientists, representing all the sciences in both the pure and applied fields, are working simultaneously with Dr. Bensley and his associates in collaboration with the Century of Progress trustees. The science theme will take the form of a moving panorama showing the march of science during the past hundred years. Dr. Bensley's appointees are Dr. Leslie B. Arcey, Northwestern University; Dr. Clarence M. Jackson, University of Minnesota; Dr. Carl G. Huber, University of Michigan, Dr. Otto F. Kampmeier, University of Illinois; Dr. Charles R. Stockard, Cornell University, and Dr. Lewis H. Weed, Johns Hopkins University.

REPORT OF EXAMINATION HELD AT LANSING

October 8, 9, 10, 1929

Univ. of W. Ont.	1914	79.4½%
Queen's Univ.	1928	85.8½%
Temple Univ.	1925	85.8 %
Univ. of Montreal	1925	79.6½%
Northwestern Univ.	1929	84.4½%
Northwestern Univ.	1929	83.4 %
Rush Med. College	1929	87.1 %
Univ. of Toronto	1926	87.6 %
Queen's Univ.	1927	83.6½%
Northwestern Univ.	1930	85.8½%
Loyola Univ.	1929	86.5½%
Univ. of Michigan	1929	84.5½%
Univ. of Toronto	1913	78.6 %
Marquette Univ.	1929	85.8½%
Woman's Med. College	1926	81.8 %
Yale University	1928	88.3 %
Univ. of Berlin	1929	78.6½%
St. Louis Univ.	1928	86.1½%
Coll. of Med. Evang.	1928	86.2½%
Northwestern Univ.	1929	80.6½%
Rush Med. College	1927	85.7½%
Rush Med. College	1930	82.8½%
Queen's University	1922	83.8½%
Georgetown Univ.	1929	85.5 %
Georgetown Univ.	1929	86.6½%

REPORT OF EXAMINATION HELD AT LANSING

October 8, 9, 1929

Palmer C. School	1923	72 %
Palmer C. School	1925	68 %
Palmer C. School	1923	75 %
Lincoln C. College	1929	78 %

THE DETROIT SESSION, A. M. A. THE SCIENTIFIC EXHIBIT

The Scientific Exhibit for the Detroit Session of the American Medical Association, June 23-27, 1930, will be located in the Detroit Masonic Temple. In this excellently equipped building there will be housed also the Registration Bureau, Technical Exhibits and the Sections of the Scientific Assembly.

The Committee on Scientific Exhibit emphasizes again the necessity of presenting exhibits in a manner which will stress their scientific value. This may be done by carefully worded explanatory placards or legends, and particularly by personal demonstration by the investigator himself. The Committee feels that the Scientific Exhibit offers unusual opportunity for investigators and visiting physicians to meet and discuss informally the phases of the research being presented. Also it should be remembered that general attractiveness is essential. The Committee will do its part by providing attractive booths decorated appropriately; uniform illuminated signs giving the name of the exhibitor and the title of the exhibit will be furnished, as well as a uniform shelf with covering. Judging from the interest already manifested, the next Scientific Exhibit will probably be the most outstanding in the history of the Association.

Application blanks for the Scientific Exhibit may be obtained by sending requests for them to the Director, Scientific Exhibit, American Med-

ical Association, 535 North Dearborn Street, Chicago.

Applications must be received before March 20th, 1930. In order that the amount of space available may be apportioned to the best advantage to all concerned, the Committee will make no assignments previous to April 10th, 1930; nor can large blocks of space be assigned to individual exhibitors.

BEAUMONT LECTURES

Professor T. Wingate Todd who is the Beaumont lecturer for 1930 was born in Sheffield, England, in 1885. He says, however, that his place of birth was an accident as neither his ancestry up-bringing or accent have any relation to his English birth. He says he actually came from Dunoon, Argylshire, Scotland. He graduated Bachelor of Medicine and Bachelor of Surgery in 1907 and took his F. R. C. S. England in 1911. He came to Cleveland as full time professor of anatomy in 1912. In addition to the chair of anatomy he holds the Directorship of the Hamann Museum of Comparative Anthropology and Anatomy and the Chairmanship of the Brush Foundation for Population Betterment. He has been particularly occupied with clinical anatomy and has written a book on the subject in 1915 and returned to radiography in 1925 to continue his studies on the alimentary tract which were interrupted in 1912. He has been also identified with the so-called anthropological side of anatomy, dealing with Egyptian material, medieval populations in England and the pre-historic peoples of our own Southwest and has been responsible for the mortality statistics thereon.

This series of lectures will be found in reality to supplement rather than replace the post-graduate work in medicine which is being so well accomplished by the Department of Post-Graduate Medicine of the University of Michigan and the Michigan State Medical Society. There is no charge and an invitation is extended to all our members who may find it convenient to attend.

The Beaumont Lectureship Foundation of the Wayne County Medical Society announce the subjects of the Beaumont lectures which are to be given by Dr. T. Wingate Todd the latter part of this month. The general subject of the Foundation for 1930 is Clinical Behavior Patterns of the Alimentary Tract. The subjects of the three lectures are as follows:

1. Evening of January 27, 1930—Normal Gastric Movements and Their Modification from Psychic Stimuli. 2. Morning of January 28, 1930. Therapeutic Control of Gastric Muscular Action. 3. Evening of January 28, 1930—The Normal Movements of the Proximal Colon and Their Modification in Daily Life.

COMMUNICATIONS

Dear Doctor Warnshuis:

At the regular meeting of the Board of Trustees of the American Medical Association held in Chicago in November, your letter of October 26, in which a very gracious invitation was extended by the Michigan State Medical Society to the officers and members of the House of Delegates of the Association to be the guests of that society on the evening of June 23, 1930, was considered by the Board and the invitation unanimously and enthusiastically accepted.

Very sincerely yours,

Olin West.

ACETONEDICARBOXYLIC ACID! IT'S A NEW BAKING POWDER

A baking powder which does not leave a residue in the finished bread or cake has just been worked out in the chemistry laboratories at the University of Wisconsin, by Edwin O. Wiig. This new leavening agent has as its active agent acetonedicarboxylic acid, which during the baking process disappears entirely as gases. The formation of carbon dioxide, the gas which "raises" the cake, is only part of the story of baking powder. The other part concerns the product which remains in the cake as a residue. The various commercial baking powders on the market at present leave as residues saline cathartics, such as sodium tartrate, Rochelle salt, disodium phosphate, sodium sulfate or aluminum hydroxide. There is still a question as to the possible ill effect of some of these materials upon health. Hence the advantage of a baking powder which leaves no residue whatsoever. Acetone is the only other substance formed besides carbon dioxide, and the acetone completely evaporates at baking temperatures.

The new powder depends for its action on combination with the water of the dough, just as do the present powders. Hence in order to protect it from atmospheric moisture it is mixed with starch. This cornstarch has a second function, more important than that just mentioned. Starch makes it possible for the chemist to standardize his product. All baking powders must have approximately the same "raising" strength to make possible the use of any recipe. The housewife-consumer will not consult the label of her tin of baking powder, and then compute whether the "two tsps. b.p." of her recipe should be doubled or halved. Starch takes care of any variation in the amount of carbon dioxide given off by active agents of differing compositions.

The keeping properties of acetonedicarboxylic acid baking powder are excellent, as Mr. Wiig has shown by various tests. It needs only to be kept in the customary moisture-proof tin. The keeping power of a product is of utmost importance to the manufacturer.

Further study of the suitability of acetonedicarboxylic acid as a leavening agent is being continued at the University of Wisconsin. The question of a cheaper source of raw material is still under investigation. At present citric acid is the raw material used in the making of acetonedicarboxylic acid. Cull lemons form the natural source of citric acid, and is the principal one in use. A shorter name for the substance would also be highly desirable, but that is a simple problem.—Science Service.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

Frederick C. Warnshuis, M. D.
Secretary Michigan State Medical Society

The Couzens' Children Fund of Michigan

Presents

Its Second Pediatric Clinic on the Diseases of Infancy and Childhood

Directed by

The Post-Graduate Department of the University of Michigan

and

The Michigan State Medical Society

FLINT, MICHIGAN, WEDNESDAY, JANUARY 15, 1930

HURLEY HOSPITAL AUDITORIUM

10:00 a. m.	(a)	Cyanosis of the Newborn.
	(b)	Hemorrhage of the Newborn.
	(c)	Feeding of the Newborn.
	(d)	Round table discussion of Infant Feeding Problems.
		Dr. David J. Levy, Detroit
12:00 m.		Luncheon.
1:30 p. m.		Prophylactic Methods in Communicable Diseases.
		Dr. Guy L. Kiefer, Lansing
2:00 p. m.		Diagnosis and Treatment of Osteomyelitis.
		Dr. Grover C. Penberthy, Detroit
2:30 p. m.		Tannic Acid Treatment of Burns of Children, with slides and demonstration of technic.
		Dr. Edward C. Davidson, Detroit
3:15 p. m.		Treatment of Empyema.
		Dr. Grover C. Penberthy, Detroit

ANNUAL COUNTY SECRETARIES' CONFERENCE

To be held in Chicago, January 22-23, 1930, at the Drake Hotel and Headquarters of the American Medical Association, 535 North Dearborn Street, Chicago.

PROGRAM

January 22, 1930

6:00 P. M.—Dinner. Drake Hotel.
7:45 P. M.—Purpose of the Conference.
R. C. Stone, Chairman of the Council.
8:00 P. M.—Your State Society.
President J. D. Brook.
8:15 P. M.—Our Post Graduate Objectives.
J. D. Bruce.
8:30 P. M.—Objectives for County Societies.
Olin West, Secretary of American Medical Association.
9:00 P. M.—Legislative Obligations.
John Sundwall.
9:15 P. M.—Round Table—F. C. Warnshuis.
Opening Discussion
L. Fernald Foster, Bay City.

PROGRAM

January 23, 1930

Headquarters—American Medical Association
535 North Dearborn Street

9:30 A. M.—Bureau of Investigation.
Arthur J. Cramp.
10:00 A. M.—Bureau of Legislation and Legal Medicine. W. C. Woodward.
10:30 A. M.—Council on Pharmacy and Chemistry. Leach.
11:00 A. M.—Packet Library and Publications.
Morris Fishbein.
11:30 A. M.—Public Health Education.
J. M. Dodson.
12:00 M. —Your American Medical Association.
Olin West.
12:30 P. M.—Luncheon.—In theh building.
1:15 P. M.—Tour of the Building.

NEW YEAR

'Twenty-nine is gone. As we enter "Thirty" we extend to our members a most cordial wish that this new year will be filled with a generous measure of happiness, well being and prosperity. There is much before us to be done. There are certain problems for us to solve, while other problems must await solution by time and the development of readjusting methods. Milling around, chaffing at the bit, or frantic rantings rarely achieve solutions. Far too often the event of the hour becomes but a trivial incident when the day is closed. What we require is discernment to enable us to differentiate the vital from the trivial. To deal with fundamentals and to ignore unessentials.

As a Society we have a few main objectives. If we remain steadfast in their pursuit, the side issues either solve themselves, or are buried beside our path of progress. In the main, our outstanding objectives are, the integrity and influence of our county units, the conducting and providing post-graduate opportunities, the health education of the public and the conservation of our organizational prestige. Accompanying these there are the general purposes of enhancing membership interests, a policy of helpfulness to all members, though not sacrificing the welfare of the whole to further the interests of a few, the cementing of friendships and the stimulation of scientific advancement.

With this governing motive, accompanied by state-wide expressions and evidence of loyalty, our new year will record individual happiness and collective prosperity.

MEMBERSHIP CERTIFICATES

Our 1930 membership certificates have been reduced in size. The change was made because of postal regulations. Members who have been accustomed to frame their certificates can use their old frames by inserting a border mat.

As soon as your county secretary mails your 1930 dues, the new certificate will be sent you in a flat envelope. On the face of the envelope you will find this line: "This contains your membership certificate." This is a precaution to enable you to identify your certificate in the mail that comes to your office.

COUNCIL'S MID-WINTER SESSION

The regular mid-winter session of the Council will be held in the board of trustees room at the headquarters of the American Medical Association in Chicago at 10 a. m., January 22nd, 1930.

The Council will join the County Secretaries at dinner at 6:30 p. m., on January 22nd at the Drake hotel. Elsewhere in this issue will be found the program of the Annual County Secretaries' Conference, to be held on January 22nd and 23rd.

PASSING COMMENTS

We wonder just how the legal profession can justify a $100,000.00 fee to a certain legal firm for services rendered in a recent divorce case in Michigan. Especially when the services could not have extended over a longer period than six months and the court hearing was private, lasting only a few hours. Get while the getting is good

predominates quite generally in legal circles.

Centralization of control with chain banks as feeders bids well to disrupt community interests and needs. Your local bank, affiliated with the chain and subject to the commands and demands of the central office, no longer remains a local institution or asset. The time is not ripe to abolish community interests. We will do well to stick to our local institutions that are not dominated by foreign control.

Lest we forget and experience again legislative rebuffs, it is urged that County Societies appoint active legislative committees who will make early contact with the chairman of the State Committee on Legislation.

Again we have the incident of a jury rendering a verdict of $20,000 damages against a surgeon for alleged malpractice. The testimony of an imported Illinois doctor was given greater credence than the opinions of several well recognized Michigan surgeons. The conclusions reached by some juries are at times astoundingly remarkable.

We, as a people, pride ourselves because of our alleged mental and environmental progress and attainments. Yet, have we, as a people, progressed as far as we think we have? The human mind is not far removed from the middle ages and Salem days crop up quite readily. Witness the spectacle at the eastern grave of a young priest. The alleged cures are discredited by competent authority—yet there is something in the human mind that stampedes individuals and causes them to revert to the miracle age. We would truly marvel, if it were true, at the child, blind from birth, who suddenly regained her sight and was immediately able to read. Who taught her, and by what miracle did she acquire the education to read or recognize letters and words? Emotional stress, but the public falls, led by sensational journalism.

Commencing January 1st, the Fellowship and Journal subscription of the American Medical Association will be seven dollars per year. The increase has been necessitated by advances in cost of printing and labor. At that, the A. M. A. Journal excels others that charge ten and twelve dollars per year.

The American Medical Association convenes in Detroit the week of June 22nd. The Journal will contain much advance information. Become a Fellow now, receive and read the best medical publication in the world and aid in supporting the work of your national organization. Your application, mailed today, will start 1930 right for you.

Your 1930 dues are payable. Send your check to your County Secretary, thereby relieving him of collecting details. Why wait till March?

"We perceive the shadow to have moved, but did not see it moving," thus does our esteemed editorial friend of the Nebraska Journal caption an editorial. The editorial is a splendid one, narrating the advancement of scientific medicine in a score of years. The caption impresses us for it is an admirable text for a dessertation—a sermon in itself. Many there are who see the shadows of darkness and ignorance recede, are unmindful of it, and remain within the shadow. This is particularly true of certain individuals and groups. Let's hope they will emerge into the brilliant sunlight this coming year.

We are encouraged and inspired as we receive and read the reports of some of our County Society meetings. Turn to the pages devoted to County Society news. If your local society is dormant, you will find ways to pep it up. Some counties rarely send in reports—they are solicited and desired. This year is the year for state-wide revival—will you aid?

MEETING OF THE EXECUTIVE COMMITTEE

A meeting of the Executive Committee was held in the Book-Cadillac hotel, Detroit, at 6 p. m., December 16, 1929. Present:

Dr. R. C. Stone, Chairman of the Council; George L. Le Fevre, B. R. Corbus, Henry Cook, J. D. Brook, President; J. Hamilton Charters, Councilor; J. H. Dempster, Editor; F. C. Warnshuis, Secretary.

1. The Secretary presented a communication from two insurance representatives making a tender of insurance rates for our members who wish to take out insurance policies payable to the Endowment Foundation of the Michigan State Medical Society. The proposition was discussed

in detail. The Secretary was directed to draw up an itemized recommendation for presentation at the Annual Meeting of the Council.

2. The Secretary and the Editor presented bids for the publication of the proposed history of our State Society On motion of Le Fevre-Corbus, the Secretary and the Editor were authorized to proceed with the publication of this history. A second motion by Corbus-Le Fevre moved that the Executive Committee approve the proffer made by the Bruce Publishing Company, and that if a satisfactory contract covering the interest of the State Society can be secured from the Bruce Publishing Company, that the Secretary be authorized to execute such contract.

3. On motion of Le Fevre-Cook the Executive Committee commended the Pediatric Clinic that was given at the University Hospital under the auspices of the Couzens Fund, together with the postgraduate department of the University and the State Medical Society, and approved holding the second clinic in Flint on January 15, 1930.

4. On motion of Le Fevre-Cook, the Executive Committee approved the recommendation of the Secretary that at the Secretaries' Conference in Chicago, the first evening be devoted to the discussion of the problems of the Michigan State Medical Society and its component units, and that the second day be devoted to the inspection and discussion of the American Medical Associations headquarters activities.

5. On motion of Cook-Le Fevre, the Secretary was instructed to invite the Chairmen and Secretaries of the Scientific Sections, of the Society to meet with the Executive Committee in February for the purpose of outlining the scientific programs for the 1930 Annual Meeting.

6. Upon motion of Le Fevre-Corbus, the Chairman of our Legislative Committee, Dr. Sundwall, is to be invited by the Secretary to be present at the January session of the Council and the Secretaries' Conference for the purpose of outlining and discussing our legislative program for the coming year.

7. Upon motion of Corbus-Le Fevre, the Speaker's committee appointments were approved.

8. Upon motion of Corbus-Le Fevre, the Secretary was authorized to proceed with the program for the entertainment of the officers and members of the House of Delegates of the American Medical Association at the 1930 Detroit meeting.

There being no further business, the meeting adjourned at 10:45 p. m.

F. C. Warnshuis, Secretary.

REVISING THE INTERNATIONAL LIST OF THE CAUSES OF DEATH

W. J. V. DEACON
(*Michigan Department of Health*)

The International Commission for the decennial revision of the International List of the Causes of Death met in Paris, France, on October 16th to 20th, 1929, and revised the list. This is the fourth decennial revision. There were 35 countries represented by 64 delegates in this conference and in addition to these countries, the League of Nations and the International Red Cross were represented. These agencies had six representatives, a total of 70 official delegates. It was a great meeting.

In the United States there has been a committee of the American Public Health Association with advisory members meeting annually for the last ten years, and several years holding two or three meetings, in addition to the annual meeting, so that the American delegation was fairly well fortified and its position and objectives clearly defined.

This conference was officially called by the French government and an invitation extended to the United States through the Department of State. The delegates who were named were officially commissioned by the Department of State. Those attending from the United States were Dr. Wm. H. Guilfoy, Register of Records for New York City; Mr. George H. Van Buren of the Metropolitan Life Insurance Company; Dr. T. F. Murphy of the Bureau of Census, Washington; Dr. Emelyn Jones, State Registrar of Pennsylvania; Miss Jessamine S. Whitney, Statistician of the National Tuberculosis Association, who was the only woman member of the conference; and Dr. W. J. V. Deacon, Director of the Bureau of Records and Statistics, State Department of Health, Lansing, Michigan.

No provision was made for the payment of the expenses of the delegates from the United States. These, I believe, were the only delegats to the conference who were not sent at government expense. The writer was enabled to attend, thanks to the

courtesy of the Michigan State Medical Society and some other agencies.

In addition to this group who attended from the United States was Dr. Rupert Blue, Assistant Surgeon General, U. S. Public Health Service, who is stationed in Paris. Dr. R. Pierret, one of the leading pathologists of France and a consultant of the U. S. Public Health Service, served as advisory pathologist and occasionally as interpreter for the American delegation. The official language of the conference was French and an interpreter had been employed from the League of Nations at Geneva, who immediately translated everything that was said. If the address was made in French, he translated it to English, and if the address was made in English he translated it to French, although I think most of the delegates had at least a bowing acquaintance with both languages.

The sessions were held in one of the council rooms of the French Foreign office, a very beautiful room in one of the older government buildings. Opening off of this room was the smaller room in which the Kellogg Peace Treaty was signed. This smaller room was used by the delegates as a committee room and was very elaborately furnished with rich carpets and hangings and a very elaborate fireplace and mantle.

The conference elected Professor Roger, Dean of the Faculty of Medicine of the University of Paris as President, and Dr. Michael Huber, Director General of Statistics of France, as Secretary General.

Some of the more difficult problems were referred to committees, but in most cases discussion was from the floor and the question was settled by vote, each country having one vote. This meant that Luxemburg, as an illustration, with a population of about one-quarter million, could offset the vote of the United States representing one hundred twenty million, or China representing four hundred fifty million. Much dissatisfaction was apparent and I am inclined to think that the basis of representation will be different at the next conference.

It will be recalled that the list in present use, which was the third decennial revision, consists of 205 titles and the finished fourth revision consists of 200 titles. Many of the changes are minor changes in the matter of inclusions, but some of the changes were more involved. The American delegation had no objection to the subdivision of titles, provided we did not lose the chance for comparison with the historical background that has been built up within the last thirty years. As an illustration of this theory, we now have a title numbered 46 for "Cancer of the Female Genital Organs." Cancer is exceedingly important and it is essential that we do not lose the opportunity to study the trend of the disease. The proposal was offered to provide a title for "Cancer of the Uterus" with the idea that all other cancers of the female genital organs would be classified under the residual title of "Cancer of Other Organs." To this the American delegation did not agree at all. We had no objection to the introduction of the title of "Cancer of Uterus" but insisted that if this was done, a title should be provided for cancer of the other female genital organs. Then, by adding two items together we could still make comparison with our existing list. Fortunately, we were able to secure the support of the British delegation and to get this arrangement.

While we are speaking of cancer, there was one interesting and important change made. Following the cancer, we now have a title, "Benign Tumors and Tumors not Returned as Malignant." The new list provides two numbers, one for non-malignant tumors (a) of the female genital organs and (b) other organs, and a new title for tumors the character of which is unknown or not specified as malignant, with the subdivisions (a) and (b) the same as above.

A very decided effort was made on the part of some of the delegates to take tabes dorsalis and paresis out of the group now entitled "diseases of the nervous system" and put them in following syphilis. To this the conference would not agree.

As the present classification provides first for the group of infectious diseases and second a group known as general diseases, under the new classification the second group will be cancer and other tumors. The third group will include rheumatism, diseases of nutrition and of the endocrine glands and other general diseases. This is followed by a special group for diseases of the blood and in group V chronic poisoning and intoxication. This includes three titles: (1) Alcoholism; (2) Chronic poisoning by mineral substances; and (3) Chronic poisoning by organic substances.

This subdivision of groups will undoubtedly be of very considerable value when we have a few years' history to build up comparability.

From this point on the group subdivisions are the same as in the present list,

making a total of 18 groups where we now have 15.

Some important changes were made in regard to puerperal causes. For instance, under title 140 we will have abortions with septic conditions. Under the present system all sepsis goes to the title puerperal septicemia, regardless of whether the sepsis developed as a result of abortion or labor. Title 141, Abortions without mention of septic conditions, but to include hemorrhage; 142, Ectopic gestation, which is now included under accidents of pregnancy; and 143, Other accidents of pregnancy, but not including hemorrhage. Title 144 will include Puerperal hemorrhage (a) Placenta Previa and (b) Other hemorrhages; and 145, Septicemia not specified as being due to abortion; (a) Puerperal septicemia and pyemia and (b) Puerperal tetanus; 146, Albuminuria and eclampsia; 147, Other forms of toxemia; and 148, Phlegmasia alba dolens, embolus and sudden death not specified as septic; 149, Other accidents of labor, and 150, Other puerperal conditions not specified.

In connection with the early infancy I am inclined to think that these subdivisions are somewhat better than we have been using. Under the general title of congenital malformations there will be five facultative subdivisions: (a) Hydrocephalus, (b) Spina bifida and meningocele, (c) Congenital malformations of the heart, (d) Monstrocities, and (e) Others. Under the group of diseases of early infancy will come 158, Congenital debility; 159, Premature birth, which is the most important single cause of death of infants; and 160, Consequences of labor, (a) with Caesarean operation and (b) Others; 161, Other diseases peculiar to early infancy.

Probably the most difficult thing that met the American delegation was the treatment of violent deaths. They do not have as many violent deaths in Europe as we have in this country, if we omit the question of war, and it was very difficult to get the conference to consider seriously our position in this matter. We did succeed in getting a fairly good list, although not all we asked, but they insisted upon providing a classification for deaths due to wounds of war and another title for the execution of civilians by belligerent armies and also a title for judicial execution, which, of course, does not interest us in Michigan at the present time.

As a whole I am inclined to think that the American delegation fared very well, considering the fact that the general feeling was none too friendly, owing to our failure to become a member of the League of Nations. The fact that we had very definite ideas as to what we wanted, whereas, many of the other delegations were wholly unprepared, I think helped a lot.

Anyone who attempts to study this list will undoubtedly feel as the delegates did —that we could do much better if we scrapped the entire list and started out fresh, but the objection to this is the fact that we would lose much valuable data through loss of comparability.

I feel that a word of commendation is due to the Russian delegation, who prepared a printed proposition along these lines. They have done an enormous amount of work and presented a very creditable list based entirely upon an etiological basis, but could not be considered because of the general feeling that we cannot afford to lose comparability. One of the foreign delegations insisted that all classification should be made on an anatomical basis. For instance, they wanted to scatter cancer through the list on the basis of the organ involved, such as cancer of the stomach going to diseases of the stomach, cancer of the intestines going to diseases of the intestines, cancer of the liver going to diseases of the liver, etc. Naturally the American delegation would not stand for this because of the fact that the average scientist who is studying cancer is interested in cancer as a whole problem, and not in cancer of any one organ. Then, too, often there is more than one organ involved, and in many cases metastasis, so that it would be exceedingly difficult to classify on this basis.

It is, of course, true that in the preparation of this list the work has in a measure only begun. The question of inclusions under each of these titles is an exceedingly important one, but will be arranged on the basis of the new titles.

Many physicians are familiar with what is known as the Joint Cause List. This had been in use in the United States for a number of years and provides the proper classification for those cases in which two or more definite causes of death are stated, either of which might prove fatal. As an illustration, where a cause of death is given as bronchopneumonia with a contributory of measles, or as measles with a contributory of bronchopneumonia, it is evident that there must be some definite plan for the classification of such a certificate. If this is not done we could not

fairly compare the records of two different places, and the Manual of Joint Causes provides just this information so that the records throughout the states of the United States and the Bureau of Census are uniform.

No other country in the world is using this same method of handling joint causes and the American committee corresponded with the entire list of delegates to the conference in the hope to secure the adoption of a manual for this purpose, offering the American manual as a make-shift to serve until some international committee would produce a better one. This correspondence was conducted by Mr. Van Buren of the Metropolitan Life Insurance Company, whom I regard as one of the leading nosologists in the United States. Our efforts in this direction, however, were not very well received, but we did secure the appointment of an international committee to go into the subject. It is improbable, however, that we can hope for any united or official action until the next decennial meeting, which will be held in 1939.

From a personal standpoint I may say that it was something of a thrill to meet with 70 men who are supposed to be the outstanding men of the world in their specialty and while this subject of nosology is a rather highly technical specialty, it is a most interesting and important one because the great bulk of our medical effort in the saving of human life is based on our own experience and the experience of others, which latter experience is best available when expressed in statistical terms wherein the experience of large numbers is brought together for study and guidance.

MEDICAL MEETINGS

There is so much for reflection and present day application that we are publishing these verses, written by Holmes. It could be made aply modern if we changed the names of drugs to ultra-violet, radium, infra red diathermy, vibrator, seras, vaccines, etc. We trust you will be entertained.

RIP VAN WINKLE, M. D.

By Oliver Wendell Holmes

An after-dinner prescription taken by the Massachusetts Medical Society, at their meeting held May 25, 1870.

CANTO FIRST

Old Rip Van Winkle had a grandson, Rip,
Of the paternal block a genuine chip;
A lazy, sleepy, curious kind of chap;
He, like his grandsire, took a mighty nap,
Whereof the story I propose to tell
In two brief cantos, if you listen well.

The times were hard when Rip to manhood grew;
They always will be when there's work to do;
He tried at farming—found it rather slow—
And then at teaching—what he didn't know;
Then took to hanging round the tavern bars,
To frequent toddies and long-nine cigars,
Till Dame Van Winkle, out of patience vexed
With preaching homilies, having for their text
A mop, a broomstick—aught that might avail
To point a moral or adorn a tale,
Exclaimed, "I have it! Now then, Mr. V.!
He's good for *something*— make him an M. D.!"

The die was cast; the youngster was content;
They packed his shirts and stockings and he went.
How hard he studied it were vain to tell;
He drowsed through Wistar, nodded over Bell,
Slept sound with Cooper, snored aloud on Good;
Heard heaps of lectures—doubtless understood—
A constant listener, for he did not fail
To carve his name on every bench and rail.
Months grew to years; at last he counted three
And Rip Van Winkle found himself M. D.
Illustrious title! in a gilded frame
He set the sheepskin with his latin name,
RIPUM VAN WINKLUM? QUEM we — SCIMUS—know
IDONEUM ESSE—to do so and so;
He hired an office; soon its walls displayed
His new diploma and his stock in trade,
A mighty arsenal to subdue disease,
Of various names, whereof I mention these:
Lancets and bougies, great and little squirt,
Rhubarb and Senna, Snakeroot, Thoroughwort,
At. Tart., Vin. Colch., Pil. Cochiae, and Black Drop,
Tinctures of Opium, Gentian, Henbane, Hop,
Pulv. Ipecacuanhae, which for lack
Of breath to utter men call Ipecac,
Camphor and Kino, Turpentine, Tolu,
Cubebs, "Copeevy," Vitriol—white and blue,
Fennel and Flaxseed, Slippery Elm and Squill,
And roots of Sassafras, and "Sassaf'rill,"
Brandy—for colics—Pinkroot, death on worms—
Valerian, calmer of hysteric squirms,
Musk, Assafoetida, the resinous gum
Named from its odor—well, it does smell some—
Jalap, that works not wisely, but too well,
Ten pounds of Bark and six of Calomel.
For outward griefs he had an ample store,
Some twenty jars and gallipots, or more;
Ceratum simplex—housewives oft compile
The same at home, and call it "wax and ile;"
Unguentum Resinosum—change its name,
The "drawing salve" of many an ancient dame;
Argenti Nitras, also Spanish flies,
Whose virtue makes the water-bladders rise—
(Some say that spread upon a toper's skin
They draw no water, only rum or gin)—
Leeches, sweet vermin! don't they charm the sick?
And Sticking-plaster—how it hates to stick!
Emplastrum Ferri—ditto *Picis*, Pitch;
Washes and Powders, Brimstone for the—which,
Scabies or *Psora*, is thy chosen name,
Since Hahnemann's goose-quill scratched thee into fame,
Proved thee the source of every nameless ill,
Whose sole specific is a moonshine pill,
Till saucy Science, with a quiet grin,
Held up the Acarus, crawling on a pin?
—Mountains have labored and have brought forth mice:

The Dutchman's theory hatched a brood of—twice
I've well-nigh said them—words unfitting quite
For these fair precincts and for ears polite.

The surest foot may chance at last to slip,
And so at length it proved with Doctor Rip.
One full-sized bottle stood upon the shelf
Which held the medicine that he took himself;
Whate'er the reason, it must be confessed
He filled that bottle oftener than the rest;
What drug it held I don't presume to know—
The gilded label said "Elixir Pro."

One day the Doctor found the bottle full,
And, being thirsty, took a vigorous pull,
Put back the "Elixir" where 't was always found,
And had old Dobbin saddled and brought round.
—You know those old-time rhubarb-colored nags
That carried Doctors and their saddle-bags;
Sagacious beasts! they stopped at every place
Where blinds were shut—knew every patient's case—
Looked up and thought—the baby's in a fit—
That won't last long—he'll soon be through with it;
But shook their heads before the knockered door
Where some old lady told the story o'er
Whose endless stream of tribulation flows
For gastric griefs and peristaltic woes.

What jack-o'-lantern led him from his way,
And where it led him, it were hard to say;
Enough that wandering many a weary mile
Through paths the mountain sheep trod single file,
O'ercome by feelings such as patients know
Who dose too freely with "Elixir Pro.,"
He tumbl—dismounted, slightly in a heap,
And lay, promiscuous, lapped in balmy sleep.

Night followed night, and day succeeded day,
But snoring still the slumbering Doctor lay.
Poor Dobbin, starving, thought upon his stall,
And straggled homeward, saddle-bags and all.
The village people hunted all around,
But Rip was missing—never could be found.
"Drowned," they guessed;—for more than half a year
The pouts and eels *did* taste uncommon queer;
Some said of apple-brandy—other some
Found a strong flavor of New England rum.

—Why can't a fellow hear the fine things said
About a fellow when a fellow's dead?
The best of doctors—so the press declared—
A public blessing while his life was spared,
True to his country, bounteous to the poor,
In all things temperate, sober, just and pure;
The best of husbands! echoed Mrs. Van,
And set her cap to catch another man.
—So ends this Canto—if its *quantum suff.*,
We'll just stop here and say we've had enough,
And leave poor Rip to sleep for thirty years;
I grind the organ—if you lend your ears
To hear my second Canto, after that
We'll send around the monkey with the hat.

CANTO SECOND

So thirty years had past—but not a word
In all that time of Rip was ever heard;
The world wagged on—it never does go back—
The widow Van was now the widow Mac—
France was an Empire—Andrew J. was dead,
And Abraham L. was reigning in his stead.
Four murderous years had passed in savage strife,
Yet still the rebel held his bloody knife.
—At last one morning—who forgets the day
When the black cloud of war dissolved away?
The joyous tidings spread o'er land and sea,
Rebellion done for! Grant has captured Lee!
Up every flagstaff sprang the Stars and Stripes—
Out rushed the Extras wild with mammoth types—
Down went the laborer's hod, the schoolboy's book—
"Hooraw!" he cried—"the rebel army's took!"
Ah! what a time! the folks all mad with joy:
Each fond, pale mother thinking of her boy;
Old Gray-haired fathers meeting—Have—you—heard?
And then a choke—and not another word;
Sisters all smiling—maidens, not less dear,
In trembling poise between a smile and tear;
Poor Bridget thinking how she'll stuff the plums
In that big cake for Johnny when he comes;
Cripples afoot; rheumatics on the jump,
Old girls so loving they could hug the pump;
Guns going bang! from every fort and ship;
They banged so loud at last they wakened Rip.

I spare the picture, how a man appears
Who's been asleep a score or two of years;
You all have seen it to perfection done
By Joe Van Wink—I mean Rip Jefferson.
Well, so it was; old Rip at last came back,
Claimed his old wife—the present widow Mac—
Had his old sign regilded, and began
To practice physic on the same old plan.

Some weeks went by—it was not long to wait—
And "please to call' grew frequent on the slate.
He had, in fact, an ancient, mildewed air,
A long gray beard, a plenteous lack of hair—
The musty look that always recommends
Your good old Doctor to his ailing friends.
—Talk of your science! after all is said
There's nothing like a bare and shiny head;
Age lends the graces that are sure to please;
Folks want their Doctors mouldy, like their cheese.

So Rip began to look at people's tongues
And thump their briskets (called it "sound their lungs"),
Brushed up his knowledge smartly as he could,
Read in old Cullen and in Doctor Good.
The town was healthy; for a month or two
He gave the sexton little work to do.

About the time when dog-day heats begin,
The summer's usual maladies set in;
With autumn evenings dysentery came,
And dusky typhoid lit his smouldering flame;
The blacksmith ailed—the carpenter was down,
And half the children sickened in the town.
The sexton's face grew shorter than before—
The sexton's wife a brand-new bonnet wore—
Things looked quite serious—Death had got a grip
On old and young, in spite of Doctor Rip.

And now the Squire was taken with a chill—
Wife gave "hot-drops"—at night an Indian pill;
Next morning, feverish—bedtime, getting worse—
Out of his head—began to rave and curse;
The Doctor sent for—double quick he came;
Ant. Tart. Gran. Duo, and repeat the same
If no et cetera. Third day—nothing new;
Percussed his thorax till 't was black and blue—
Lung-fever threatening—something of the sort—

Out with the lancet—let him bleed—a quart—
Ten leeches next—then blisters to his side;
Ten grains of calomel; just then he died.

The Deacon next required the Doctor's care—
Took cold by sitting in a draught of air—
Pains in the back, but what the matter is
Not quite so clear,—wife calls it "rheumatiz."
Rubs back with flannel — gives him something hot—
"Ah!" says the Deacon, "that goes *nigh* the spot."
Next day a *rigor*—"Run, my little man,
And say the Deacon sends for Doctor Van."
The Doctor came—percussion as before,
Thumping and banging till his ribs were sore—
"Right side the flattest" — then more vigorous raps—
"Fever—that's certain—pleurisy, perhaps.
A quart of blood will ease the pain no doubt,
Ten leeches next will help to suck it out,
Then clap a blister on the painful part—
But first two grains of *Antimonium Tart.*
Last, with a dose of cleansing calomel
Unload the portal system—(that sounds well!)"
But when the selfsame remedies were tried,
As all the village knew, the Squire had died;
The neighbors hinted—this will never do,
He's killed the Squire—he'll kill the Deacon, too."
—Now when a doctor's patients are perplexed,
A *consultation* comes in order next—
You know what that is? In a certain place
Meet certain doctors to discuss a case
And other matters, such as weather, crops,
Potatoes, pumpkins, lager-beer and hops.
For what's the use?—there's little to be said,
Nine times in ten your man's as good as dead;
At best a talk (the secret to disclose)
Where three men guess and *sometimes* one man knows.

The counsel summoned came without delay—
Young Doctor Green and shrewd old Doctor Gray—
They heard the story—"Bleed!" says Doctor Green,
"That's downright murder! cut his throat, you mean!
Leeches! the reptiles! Why, for pity's sake,
Not try an adder or a rattlesnake?
Blisters! Why bless you, they're against the law—
It's rank assault and battery if they draw!
Tartrate of Antimony! shade of Luke,
Stomachs turn pale at thought of such rebuke!
The portal system! What's the man about?
Unload your nonsense! Calomel's played out!
You've been asleep—you'd better sleep away
Till someone calls you."

"Stop!" says Doctor Gray—
"The story is you slept for thirty years;
With Brother Green, I own that it appears
You must have slumbered most amazing sound;
But sleep once more till thirty years come round,
You'll find the lancet in its honored place,
Leeches and blisters rescued from disgrace,
Your drugs redeemed from fashion's passing scorn,
And counted safe to give to babes unborn."
Poor sleepy Rip, M. M. S. S., M. D.
A puzzled, serious, saddened man was he;
Home from the Deacon's house he plodded slow
And filled one bumper of "Elixir Pro."
"Goodby," he faltered, "Mrs. Van, my dear!
I'm going to sleep, but wake me once a year;
I don't like bleaching in the frost and dew,
I'll take the barn, if all the same to you.
Just once a year—remember! no mistake!
Cry, 'Rip Van Winkle! time for you to wake!'
Watch for the week in May when laylocks blow,
For then the Doctors meet, and I must go."

Just once a year the Doctor's worthy dame
Goes to the barn and shouts her husband's name,
"Come, Rip Van Winkle!" (giving him a shake)
Laylocks in blossom! 't is the month of May—
The Doctors' meeting is this blessed day,
And come what will, you know I heard you swear
You'd never miss it, but be always there!"

And so it is, as every year comes round
Old Rip Van Winkle here is always found.
You'll quickly know him by his mildewed air,
The hayseed sprinkled through his scanty hair,
The lichens growing on his rusty suit—
I've seen a toadstool sprouting on his boot—
—Who says I lie? Does any man presume?—
Toadstool? No matter—call it a mushroom.
Where is his seat? He moves it every year;
But look, you'll find him—he is always here—
Perhaps you'll track him by a whiff you know—
A certain flavor of "Elixir Pro."
Now, then, I give you—as you seem to think
We can give toasts without a drop to drink—
Health to the mighty sleeper—long live he!
Our brother Rip, M. M. S. S., M. D.!

INSURANCE REPORTS

The following comments are taken from letters received from insurance companies in reply to the letter mailed to them on November 14, 1929, by the Civic and Industrial Relations Committee, which contained the resolution passed by the State Society at its meeting in Jackson, September 17, 1929, and solicited the friendly cooperation of the insurance companies:

OLD LINE LIFE INSURANCE COMPANIES

American Central Life Ins. Co., Indianapolis, Ind., November 18, 1929:

"We consider the conditions and the fee stipulated in this ruling very fair and consistent. We shall be very glad to comply therewith."

J. M. Smith, Medical Director.

Berkshire Life Ins. Co., Pittsfield, Mass., November 19, 1929.

"It seems to me that the action of your organization is perfectly proper and that there should be no objection on the part of any insurance company to a proper payment for such services."

Secretary.

Home Life Ins. Co., New York City, November 19, 1929.

"The fee charged by a former attending physician for this additional report, which under our system is obtained by the applicant, not by the company, is, as we previously stated, quite evidently a matter of adjustment between him and his physician."

W. S. Gaylord, Vice-Pres't., and Sec'y.

Kansas City Life Ins. Co., Kansas City, Mo., November 18, 1929.

"Regarding medical fees for information given

to insurance companies by attending physicians, would say that this is entirely satisfactory to our company and we will be governed thereby in the future."

H. A. Baker, Medical Director.

Lafayette Life Ins. Co., Lafayette, Ind., November 18, 1929.

1. "Will you be good enough to advise the writer the makeup of the committee" Was this committee made up wholly of physicians belonging to the State Medical Society, or was there in the conference Medical Directors or Executive Officers of insurance companies, i. e. in your study were you able to get both sides of the question?"

2. "Is there a different fee requested from fraternal and assessment companies from that of 'Old Line' companies, and if so, will you be good enough to advise us what fee they are asked to pay?"

3. "Will you be able to recommend to the insurance companies, physicians who are dependable and can give reliable and trustworthy examinations to life insurance companies? If a plan of this sort could be put through by which the life insurance companies could feel that they could appoint examiners who had the endorsement of the State Medical Society, much of the trouble would be behind us.

"We wish to assure you that we are willing and anxious to co-operate in any movement that will tend to smooth out any situation that at the same time may be of benefit in general."

M. M. Lairy, Medical Director.

Missouri State Life Ins. Co., St. Louis, Mo., November 19, 1929.

"I am glad to say that this company for several years has been allowing a fee to attending physicians for information which we request regarding persons applying to us for insurance."

B. Y. Jaudon, Medical Director.

National Life Assurance Co. of Canada, Toronto, Ont., November 18, 1929.

"We shall be pleased to fall in with what you suggest in your letter which is our practice, and I take this opportunity of saying to you that if medical examiners for life insurance companies take their duties seriously they are in a position to give us full value for what we pay them."

Albert A. MacDonald, Dir. Medical Service.

Peoria Life Insurance Co., Peoria, Illinois, Dec. 5, 1929.

"We desire to signify our willingness to pay the nominal fee of $2.00 for information affecting the insurable status of life insurance risks."

F. A. Causey, Associate Med. Director.

Providential Mutual Life Ins. Co., Philadelphia, Pa., Nov. 18, 1929.

"The only way I can see that it might possibly affect us would probably be that the members of your Society are only willing to place this information in the hands of the applicant himself, so that he can send it to the insurance company. It comes down to the old question of whom the prescription belong to, that is, to the patient or to the doctor. We have always written that if there was any fee charged for this information it would have to be borne by the applicant."

Herbert Old, Ass't. Medical Director.

Register Life Insurance Co., Davenport, Iowa, Nov. 22, 1929.

"When we require a physician's statement from a policy-holder or an applicant for insurance we make it a practice to advise the policy-holder or applicant that he is to furnish such information at his own expense. In the rare cases in which our company asks for a service from a physician not our own examiner we are perfectly willing to pay him a proper fee."

G. E. Decker, Pres. & Med. Director.

HEALTH AND ACCIDENT INSURANCE COMPANIES

Commercial Casualty Ins. Co., Newark, N. J., Nov. 19, 1929.

"I am inclined to believe that it is going to develop considerable friction and will in a way perhaps make it rather difficult for claims to be adjusted promptly and perhaps will deprive some of the policy-holders of indemnity to which they may otherwise be entitled."

F. W. Benjamin, Manager.

Globe Indemnity Company, Newark, N. J., Nov. 19, 1929.

"This company makes a practice of cooperating with the physicians and surgeons that it comes in contact with in the course of its business, to every possible extent consistant with the equities involved."

F. H. Kingsbury, Vice-President.

Home Mutual Benefit Ass'n, Petoskey, Mich., Nov. 18, 1929.

"I feel that this will be a blow to small policy holders and I feel that Doctors are getting good pay and this is a charge on many poor people. For large policies or old line insurance it would be all right, but small holders—No."

N. J. Stone, Secretary.

Hoosier Casualty Company, Indianapolis, Ind., Nov. 21, 1929.

"If this is done by your Medical Society then the policy holders must pay the bill. It seems however, to us that it is an imposition as these policy holders can much easier pay their doctor bills by carrying a disability policy and it only insures more securely the payment of the doctor's bill by carrying this protection than where they do not carry such protection. Frankly I cannot possibly agree with your proposed method."

C. W. Ray, President.

Income Guaranty Company, South Bend, Ind., Nov. 19, 1929.

"We cannot agree that the responsibility for the payment of a fee to the physician for preparing insurance reports rests with the insurance company and we do not seem to be prepared to enter into any agreement to the effect that our company will pay such a fee.

"It seems rather inconsistent to the writer to read of the physicians in one state getting together and writing a story of being underpaid professionally when the physicians in another state seem to be working toward the point of lowering the physician's charges, seemingly admitting that bills and fees for medical and surgical attention have been and are generally too high."

John G. Malmberg, President.

Interstate Business Men's Accident Ass'n, Des Moines, Iowa, Nov. 20, 1929.

"We can see no reason why it is not perfectly legitimate for the physicians to charge the fees they feel to be fair and proper for the completion of preliminary and final claim blanks. The whole question has been very interesting to us and it

is our belief that the committee has reached a very happy solution of their problem."

Manager Claims Department.

National Casualty Co., Detroit, Mich., Nov. 16, 1929.

"The matter is interesting as news to us but will not be otherwise because under the laws of Michigan and as incorporated in the policies of accident insurance, policy holders are obligated to furnish written notice and written proof so the matter of charges for anything furnished to them by the members of your society is a matter of adjustment for them and a subject upon which we have no opinion."

W. G. Curtis, President.

New York Casualty Co., New York, Nov. 20, 1929.

"The major portion of the resolution is not of serious interest to us, but I wish to take exception to that portion of the resolution which exempts a physician from making affidavit to statements made by him on the claim proofs. I can see no reason why the physicians should object to making any such affidavit if his statements are correct, and certainly if they are not correct it is of the utmost importance that they be in affidavit form."

Everett Taylor, Vice-President.

Members are urged anew to adhere to the resolutions passed at the Jackson meeting. It is further recommended by the committee that the resolutions be re-read at the next meeting of your society.

COMMITTEE ON CIVIC AND INDUSTRIAL RELATIONS

The Civic and Industrial Relations Committee of the Michigan State Medical Society held a meeting at the Book-Cadillac Hotel, Detroit, December 9, 1929, at 5:30. The following members were present:

Drs. C. D. Munro, Jackson
C. S. Gorsline, Battle Creek
A. R. McKinney, Saginaw
H. F. Dibble, Detroit
L. O. Geib, Detroit
H. S. Collisi, Grand Rapids, Chairman.

Dr. J. R. Rupp, Chairman of the Wayne County Medical Society Civic and Industrial Relations Committee was also present.

Four questions were discussed. This communication conveys to each committee member the substance of the discussion and action taken. Space is left beneath each subject in which to make criticisms and suggestions. Kindly return the report with your notations to the Chairman, who will then be guided by the majority of recommendations.

1. INSURANCE RESOLUTIONS

The Chairman informed the committee that the two resolutions, one regarding Old Line Life Insurance Companies and the other the Health and Accident Insurance Companies, were placed in effect on December 1, 1929. The individual insurance companies have been notified by letter of the adoption of the two resolutions by the House of Delegates of the State Society at the Jackson meeting.

Letters containing the reaction of some of the insurance companies have been received. The majority of Old Line Life Insurance Companies have been favorable to the action taken. The Health and Accident Companies have been less favorable. Extracts from these letters have been given to the Secretary of the State Society, who desires to use them for publication.

One of the questions asked was whether the State Medical Society possessed a list of physicians eligible as insurance examiners and whether this would be furnished to insurance companies. The committee believed it unwise for the State Society to undertake furnishing such a list for the reason that this would involve discrimination and be unfair to the physicians.

The committee believed that the State Secretary should notify each county society by letter of the action taken on the resolutions and to urge their members to strictly adhere to them. Dr. Warnshuis has agreed to send such a letter to the county societies requesting it to be read at two successive meetings in order to surely convey the information to each member.

2. INDUSTRIAL CLINICS

The resolution passed by the State Society at the Jackson meeting relative to industrial clinics was the main topic of discussion. The discussion seemed to indicate that there were many violations of the Medical Practice Act occurring in first-aid factory clinics. First-aid men and practical nurses, poorly equipped, lacking in experience and without any knowledge of aseptic technic, were undertaking minor surgery. This was considered a practice that should be immediately discontinued and inasmuch as industrial physicians and surgeons come in closest contact with this situation, it was believed that they could act as the best informants.

Dr. Gorsline, President of the recently revived Industrial Physicians & Surgeons Association of Michigan, informed the committee that their association would meet in Flint in April. He has appointed an Industrial Relations Committee, of which Dr. R. H. Denham of Grand Rapids is Chairman. It was suggested that the State Society Chairman and the Industrial Physicians & Surgeons Society Chairman cooperate with each other in the analysis of these industrial problems.

It was proposed that as soon as the Industrial Physicians & Surgeons Association began to function that they could better take the reponsibility of reporting violations and undertaking to correct them, while the Civic and Industrial Relations Committee of the State Medical Society could undertake educational measures with Nurses' Associations, Chambers of Commerce and Manufacturers Associations, emphasizing the need of competent medical care for employees.

The attention of the county societies could be called to the fact that the factory first-aid man is a menace to employees unless he is under the strictest medical supervision. Instances were cited where employers had reacted unfavorably toward physicians' advice that the practice be discontinued in their plants and one member of the committee stated that he had lost one of his factories because of the policy he wished to adopt regulating the first-aid man.

The Chairman was requested to secure a list of all factories having first-aid departments from Dr. F. A. Poole, Michigan Department of Health, Lansing, Michigan, whom it was believed could supply this information. Some knowledge could then be obtained of the number of first-aid clinics throughout the state. One suggestion was that first-aid clinics be licensed and pay a fee to the

state, which would cause them to come under proper supervision.

The committee agreed that a letter should be sent to each county society calling their attention to the trend of first-aid clinics to violate the Medical Practice Act, and that physicians are soliciting factory work by contract, underbidding the others.

3. RESOLUTION MAKING HOSPITALS' AND PHYSICIANS' BILLS PRIOR CLAIMS

The resolution making settlement claims subject to prior liens of hospitals and physicians for services rendered for injuries received in automobile accidents, passed at the State Society, was next discussed.

It was believed that public reaction would be against physicians taking the initiative to secure legislation making physicians' and hospitals' bills prior claims of settlement for damages received in automobile accidents. After discussion, it was decided that the hospitals really represent the people themselves and that any action taken should originate from this group rather than the Medical Profession. The Chairman was instructed to confer with the President of the Michigan State Hospital Association and see what could be done in starting this movement, pledging the assistance of this committee in furnishing any statistics or information relating to the Medical Profession.

4. APPOINTMENT OF CIVIC RELATIONS COMMITTEE FOR COUNTY SOCIETIES

HEALTH AND ACCIDENT INSURANCE COMPANIES

There is an apparent lack of civic interest among physicians and physicians' associations at the present time. It was believed that a closer contact should be established with the public in order to promote a high standard of medical practice in each community and that the public should be urged to use physicians as speakers in programs where health education and civic enterprises were involved. Physicians should take as much interest in politics as the average layman, and should stand ready to serve their community, county or state whenever called upon. Active spokesmanship by legislators from the Medical Profession should be established on the floor of the State Legislature. Each community has at least one physician who could so qualify, particularly from some of the outlying districts. There should also be closer contacts with Boards of Commerce, Parent-Teacher Associations and particularly Boards of Health.

It was recommended that the Council of the Michigan State Medical Society be advised of the strong necessity for a Civic Relations Committee in each county society, whose duty would be that of establishing a contact with all civic enterprises and taking an active part in all matters where health, hygiene and sanitation were involved. The following resolution adopted by each county society could serve as a stimulus to arouse interest in this field:

"That the President appoint a Civic Relations Committee consisting of five members, whose function shall be to take an interest in all worthy civic nad lay activities; to study them erit of such activities and make interval reports of them to the Society; to provide a corps of qualified speakers available for service in all lay organizations in the community; and to offer the services of these speakers in local programs whenever it is deemed advisable."

The Cairman again wishes to state that he will keep each member informed from time to time of developments of sufficient importance. A second meeting will be called in Grand Rapids during the month of June.

Very sincerely,

H. S. COLLISI,
Chairman, Civic and Industrial Relations Committee.

MIDLAND COUNTY

On Wednesday, December 11th, the members of Midland County Medical Society met and elected for year 1930: For President, Dr. C. V. High, Jr., Midland; Secretary Dr. E. J. Dougher, Midland, Mich.

MUSKEGON COUNTY

At the annual meeting of the Muskegon County Medical Society the following officers were elected for the coming year:

Dr. Pitt S. Wilson, President; Dr. Henry J. Pyle, Vice President; Dr. R. J. Douglas, Secretary-Treasurer; Dr. F. W. Garber, Sr., Delegate to the State Convention; Dr. C. J. Bloom, Alternate Delegate to the State Convention; Dr. George L. LeFevre, Medical Convention Advisor.

R. J. Douglas, Secretary.

ALPENA COUNTY

Following are the newly elected officers of the Alpena County Medical Society for 1930:

Dr. C. A. Carpenter, Onaway, President.
Dr. D. A. Cameron, Alpena, Vice-president.
Dr. W. B. Newton, Alpena, Sec.-Treas.
Dr. E. L. Foley, Alpena, Delegate.
Dr. A. R. Miller, Harrisville, Alternate.
Dr. E. L. Foley, Alpena, Legal Representative.

I will be with you in Chicago at your meeting of the County Secretaries in January, unless sickness should prevent.

Yours fraternally,
W. B. Newton, Secretary.

SHIAWASSEE COUNTY

At the annual meeting of Shiawassee County Medical Society, December 12th, at Memorial Hospital, Owosso, the county health unit plan was discussed and endorsed after listening to a report by a committee which had visited Cadillac and corresponded with several in Genessee and Oakland counties. The election of officers for 1930 resulted as follows:

President, Dr. F. A. Watts, Owosso; Vice President, Dr. R. W. Teed, Owosso; Secretary-Treasurer, Dr. W. E. Ward, Owosso; Delegate, Dr. W. F. Weinkauf, Corunna; Alternate, Dr. W. E. Ward Owosso; Medico-Legal Representative, Dr. A. M. Hume, Owosso; Board of Directors, Doctors I. W. Greene, Owosso; A. L. Arnold, Jr., Owosso, and C. A. Crane, Corunna.

BAY COUNTY

The annual meeting was held Wednesday evening, December 11th, at the Wenonah Hotel with 52 present.

Dr. Laurence, retiring president, was host to the members with a delightful banquet.

The annual reports showed a membership of 66 and a cash balance in the treasury of $137.40.

Dr. E. A. Hoyt was elected to local honorary membership.

Dr. Lawrence delivered a very interesting and unique address on "Medical Economics."

The annual election of officers resulted as follows:

President, Dr. Chas. W. Ash; Vice President, Dr. F. S. Baird; Secretary-Treasurer, Dr. L. Fernald Foster; Medico-Legal Adviser, Dr. A. W. Herrick; Delegate, Dr. H. P. Lawrence; Alternate, Dr. A. D. Allen; Censor, Dr. A. W. Herrick.

L. Fernald Foster, Secretary.

INGHAM COUNTY

The Ingham County Medical Society has just finished a most profitable year under the guidance of President L. C. Towne. The meetings have been of a very high order and the attendance has been universally good. Among those who addressed the Society this year were Doctors Belote and Pierce of Ann Arbor, Dr. W. P. Simpson of Dayton, Ohio; Doctors C. J. Marinus and Thomas B. Cooley of Detroit, and Dr. James G. Carr of Chicago. The annual meeting was held December 10, 1929, and the following officers for 1930 were elected: President, Dr. D. A. Galbraith; Vice President, Dr. Ford DeVries; Secretary, Dr. L. M. Snyder, and Treasurer, Dr. T. I. Bauer. Following this a dinner dance was held at the Lansing Country Club.

The Society was also entertained upon this occasion by Dr. N. Sinai of the Department of Hygiene of Ann Arbor, who gave a very interesting and instructive talk on "The Cost of Medical Care." The Society has several interesting projects in view for the coming year and is looking forward to the coming meetings with enthusiasm.

L. M. Snyder, Secretary.

IONIA-MONTCALM COUNTY

The annual meeting of the Ionia-Montcalm Society was held at the Hotel Belding, on December 10th, 1929, with 26 members present; Dr. I. S. Lilly presiding.

Following the dinner the president appointed a nominating committee consisting of Doctors Maynard, Stanton and Hansen. The business meeting was then deferred until immediately after the program.

The scientific program, arranged by Dr. Pinkham, consisted of two very excellent papers: "Genito-Urinary Diagnosis from the Standpoint of the General Practitioner," by Dr. William J. Butler, of Grand Rapids, and Dr. O. H. Gillette, also of Grand Rapids, spoke on the subject of "Surgical Diagnosis of the Left Upper Quadrant."

The nominating committee then reported selections of officers for the coming year: President, Dr. Perry C. Robertson, of Ionia; Vice President, Dr. L. E. Bracey, of Sheridan; Secretary-Treasurer, Dr. John J. McCann, of Ionia; Dr. I. S. Lilly, of Stanton, and Dr. H. B. Weaver, of Greenville, delegate and alternate delegate to the State Meeting. The report of the nominating committee was adopted.

The meeting then adjourned until January 14th at Greenville.

MACOMB COUNTY

The following is an outline of the work of the Macomb County Medical Society for the year 1929:

January meeting. A paper by Dr. Hubert E. Northrup. Subject—Death related to everyday Obstetrical Practice.

February Meeting. Dr. E. Poos. Subject—Infections of the Head.

March Meeting. Dr. W. N. Brailey. Subject—Obscure Fevers in Children.

April Meeting. Dr. Guy L. Kiefer. Subject—The Establishment of a County Health Unit.

May Meeting. Speaker Rev. Sidney Eva. Subject—Relationship of the Physician to the Clergyman.

June Meeting. Business Meeting.

July Meeting. Dr. Frank S. Perkin. Subject—General Considerations in the Treatment of Diabetes Milletus.

September Meeting. Dr. E. J. O'Brien. Subject—Chest Surgery.

October Meeting. Dr. A. M. Wehenkel. Subject—Home Treatment of selected Tuberculosis Patients.

November Meeting. Dr. Charles W. Peabody. Subject—Early Recognition of Bone Tuberculosis.

December Meeting. Business Meeting and Nomination and election of Officers. The following officers were elected for the year 1930:

President—Dr. T. P. Russell, Centerline, Mich.

Vice-president—Dr. A. A. Thompson, Mt. Clemens, Mich.

Secretary—Dr. J. N. Scher, Mt. Clemens, Mich.

Treasurer—Dr. W. H. Norton, Mt. Clemens, Mich.

Respectfully submitted,
J. N. Scher, Secretary.

LENAWEE COUNTY

The December meeting of the Lenawee County Medical Society was held in the Adrian Club the evening of December 3rd. The occasion was the annual banquet and Ladies' Night. We were hosts this year of Washtenaw, Monroe, Hillsdale and Fulton County (Ohio) Societies. About 100 doctors and ladies sat down to a very satisfactory dinner.

The preliminaries were rapidly disposed of by President Marsh, as Dr. Crile of Cleveland was the guest of the evening, and we wished to allow him to have all the time that he wished. Among the distinguished guests were Dr. Bruce of Ann Arbor, chief of the Department of Post-Graduate Study; Dr. Haynes, Superintendent of the University Hospital; Dr. F. E. Andrews, Mayor of Adrian and the oldest physician in years of practice in the county. Dr. Andrews graduated from the U. of M. in 1878. Also Dr. R. M. Eccles of Blissfield, an honorary member of the Michigan State Medical Society, over 50 years in practice, and Dr. Fenton of Reading, Secretary of the Hillsdale Society, almost 53 years in practice, were introduced. Dr. Fenton was a graduate of the Detroit College of Medicine and Surgery in the class of 1876.

After presenting the officers of the Societies represented, nearly all of whom were present, Dr. Crile was introduced to the audience. He talked for an hour and a half, and during the whole time he held the attention of all so closely that it seemed as if he were only started when he was forced to close that he might catch a train for home. His subject was the intensely interesting work which is being carried out in the Cleveland Clinic on the cause of peptic ulcer. Starting

from the single cell, which they have proven to be an electric battery, he gradually built up his demonstration that the whole living being, both animal and vegetable, is a series of electric batteries. When the electric potential drops to zero, the animal or plant is dead. Carrying this demonstration up to the different organs, they have proven that the acid-alkaline border at the pylorus has a high potential, and as soon as the acidity of the stomach is increased, the potential increases proportionately, thus causing a destruction of the tissues by electrolysis. The thyroid is considered as the generator of the energy, and the suprarenal as the organ which causes the energy to be transformed into work. Left suprarenalectomy has been tried in stubborn cases of peptic ulcer which have had as many as two gastro-enterostomies without permanent help, and so far the result has been satisfactory.

At the close of Dr. Crile's talk, we all felt that we had been in communion with a master mind, and that we were well repaid for the labor of arranging so large a meeting.

C. H. Westgate, Secretary.

BERRIEN COUNTY

The Berrien County Society held their November meeting in joint session with the Cass County Society at Dowagiac on Thursday evening, the 21st. Dinner was served at the Hotel Dixie at 6:30. Following the dinner the combined societies listened to an excellent paper by Dr. Burton R. Corbus of Grand Rapids. Dr. Corbus gave an unusual and interesting discussion on foods and vitamines. It was a general summing up of our present knowledge of the importance of vitamines and certain foods in the treatment of metabolic diseases. A type of paper of interest to surgeon and internist alike and presented in such a manner as to call forth a lot of discussion.

One usually thinks of such a subject being rather dry, yet necessary, but Doctor Corbus presented his topic in such a way that the members present were highly enthused, and the importance of foods in the treatment of disease and post-operative conditions was impressed on everybody in a new way. We cannot recommend too highly Dr. Corbus' paper.

Dr. Boys, councilor for this district, then gave a short talk dealing with the affairs of the State Society and complimenting the Cass County Society on its rejuvenation and affiliation with the Berrien County Society, whereby they still maintain their own identity and yet are able to meet with the Berrien Society and enjoy the scientific programs.

Election of officers for 1930 will take place at the December meeting to be held in Niles.

The Berrien County Society announce the death of Dr. A. L. West of St. Joseph. Dr. West was a native of Georgia and was graduated from Vanderbilt. He has been a resident of St. Joseph since 1924. He has been full time health officer of that city for the past five years. While not active in society affairs he was generally known and well liked. Death was sudden and due to angina pectoris.

Doctor C. N. Sowers, veteran Berrien County surgeon and chief of staff of Mercy Hospital in Benton Harbor, recently returned from Ann Arbor to convalesce following a prostactectomy. He expects to return to active office practice by the first of January.

GRAND TRAVERSE-LEELANAU CO.

The Annual Meeting of the Grand Traverse-Leelanau County Medical Society was held at the Traverse City State Hospital on December 4, 1929.

Preceding the meeting, an operative surgical clinic was held at the J. D. Munson Hospital by Dr. C. E. Boys of Kalamazoo, Michigan, during which he operated on six cases.

A wonderful dinner was served in the chapel of the State Hospital, the society being guests of the retiring President, Dr. George F. Inch.

The following members were present: Doctors Sladek, Kyselka, Gauntlett, Lawton, Swanson, Swartz, F. Holdsworth, M. Holdsworth, Rinear, Inch, Sheets, Hastings, Holliday, Brownson, Minor and Way. Doctors Boys, of Kalamazoo, Ricker, of Cadillac; Covey, of Traverse City; Evans, Lauer, Williams, Campbell, Norcross, and Mrs. Evans, all of the State Hospital Staff. were invited guests.

Dr. Otto L. Ricker of Cadillac, our Councillor, made a few remarks relative to the Cadillac County Health Unit and the Couzens Pediatric Fund.

The membership committee reporting favorable, Doctors Mode Holdsworth, of Traverse City, and Robert Hastings of Elk Rapids, were elected to our membership.

The following officers for 1930 were elected: President, Dr. L. R. Way, Traverse City; Vice President, Dr. Ralph Kernkamp, Suttons Bay; Secretary-Treasurer, Dr. E. F. Sladek, Traverse City; Medico-Legal, Dr. F. P. Lawton, Traverse City.

Dr. E. F. Sladek presented a paper, "The Rationale of Physical Therapy," in which he reviewed the physiological effects of some of the most important of the physical measures and attempted to show their logical application to certain disease conditions. This paper was illustrated by one reel of motion pitures which showed a number of post injury conditions before and after physical therapy.

Dr. C. E. Boys, of Kalamazoo, showed a reel of motion pictures on "Treatment of Severe Burns," in which he showed the treatment of skin contractures, also their prevention, by means of skin grafts. As the picture was run off, Dr. Boys emphasized the various procedures performed, especially stressing active motion. Dr. Boys showed us what can be done to prevent those deformities which so often follow severe burns.

As a non-medical feature on our program, Dr. Boys showed us four reels of motion pictures taken by himself during his two trips to Alaska, in which he showed most interestingly and vividly the topography and character of this country, also the game present, and the method of hunting it.

A rising vote of thanks was given Dr. Boys for putting on this most wonderful program.

E. F. Sladek, Secretary.

The regular meeting of the Grand Traverse-Leelanau County Medical Society was called to order in the J. D. Munson Hospital by Dr. George F. Inch at 7:45 p. m. on November 5, 1929.

The following members were present: Doctors F. Holdsworth, M. Holdsworth, Murphy, Swartz, Thirlby, Brownson, Inch, Gauntlett, Sheets, Hastings, Way, Minor, Lawton and Kyselka.

Miss Brown, R. N., county nurse, talked upon

the various conditions of health that she finds among the county school children, and asked for co-operation from the society in giving toxin-antitoxin.

The applications for membership of Doctors Mode Holdsworth and Robert Hastings were referred to the membership committee.

The moving picture, "Diagnosis and Treatment of Infections of the Hand," by Dr. Allen B. Kanavel was then shown. This was much appreciated by the members present and it was decided that more medical movies be obtained and shown at later meetings. Dr. E. B. Minor talked on the lectures he had heard by Dr. Kanavel.

Dr. Fred Murphy read a resolution adopted by the Leelanau County physicians in regard to collections.

H. B. Kyselka, Acting Secretary.

JACKSON COUNTY

Today marks the passing of another eventful year in the history of the Jackson County Medical Society.

Our meetings throughout the year have been marked by a splendid attendance, and much interest has been manifested by every member of the Society.

We have been particularly fortunate in securing a splendid list of speakers for our regular meetings, some of whom are the following, together with their subjects:

Dr. W. H. Marshall, Flint, Michigan, "Pain in Relation to Heart Disorders."

Dr. A. D. LaFerte, Detroit, "Fractures."

Dr. Abraham Levinson, Chicago, "Treatment of Meningicoccus Meningitis."

Dr. A. M. Mortenson, Battle Creek, Michigan, "Arterio-Sclerosis Associated with Coronary Thrombosis."

Dr. R. L. Kahn, "League of Nations Conference of Serodiagnosis of Syphilis."

Dr. E. Starr Judd, Rochester, Minn., "Physiology of the Liver in Relation to Surgery."

Dr. Clifton F. McClintic, Detroit, "Treatment of Chronic Ulcers, Gangrene, Raynaud's Disease, Buerger's Disease, and Spastic Paralysis by Alcoholic Injection of the Peri-Arterial Sheath."

Dr. William J. Cassidy, Detroit, "Cranio-Cerebral Injuries."

The high spot of our yearly program was of course the entertainment of the State Society in September, which event was attended by a large number of delegates and members from the entire state. The success of this meeting was due in large measure to the very complete arrangements made by Dr. C. D. Munro and his able committee which has it in charge.

Much credit is due my untiring Secretary, Dr. Philip Riley, for his ceaseless interest displayed, and manifold duties performed, which contributed greatly to the year's success. He also displayed marked ability as the editor of our monthly Bulletins, which have been a credit to our Society.

I desire to express my appreciation and thanks to each and every member of the Society for their wonderful co-operation and for their earnest efforts in helping to make the past year the success it has been.

P. R. Hungerford, President.

The November meeting of the Jackson County Medical Society was held Tuesday evening, November 19th, 1929, at the Hayes Hotel. A chicken dinner was served at 6:30 p. m., following which President Hungerford called the meeting to order.

The minutes of the previous meeting were approved as published in the Bulletin.

Under the heading of old business, the matter of a registry service as outlined in the Bulletin was voted down. Such a service is needed by so few that the cost would be prohibitive.

Dr. Riley suggested that the County Medical Society have a secret committee of three members who are to pass on the worthiness of all promiscuous requests for charity, such as the sale of dance tickets over the telephone. This is not to apply to various charitable organizations and institutions for which it is customary to put on an annual drive for funds. The committee is to be appointed by the President of the Society. Motion was made by Dr. O'Meara that such a plan be adopted; seconded by Dr. Enders. Motion carried unanimously.

Dr. Riley also suggested that the County Medical Society authorize all lawyers and insurance agencies to collect for its various members medical bills at the time of settlement of the claim. Motion made by Dr. Corley that such a resolution be adopted. Motion seconded by Dr. Crowley. Motion carried unanimously.

The name of Dr. N. D. Wilson failed to receive the necessary four-fifths vote for membership.

The name of Dr. Theophile Schmidt was proposed for membership by Dr. Kudner. The name of Dr. Morris Wertenberger was proposed for membership by Dr. Roberts. Both are graduates of the University of Michigan Medical School.

Dr. Riley then read a letter from Dr. F. C. Warnshuis and one from Dr. James D. Bruce urging the members to attend the Pediatric Clinic at Ann Arbor, November 26th, 1929. Dr. Riley also read a letter from Dr. C. H. Westgate at Adrian, urging the members and their wives to attend the Crile meeting in Adrian on December 3rd, 1929.

President Hungerford then turned the meeting over to Dr. Newton, chairman of the day.

Dr. Newton introduced as speaker of the evening Dr. Wm. J. Cassidy, of Detroit. Dr. Cassidy gave a very interesting talk illustrated with lantern slides on "Cranio-Cerebral Injuries; What the General Practitioner Should Know Thereof, What the Surgeon Can Do and Offer as for Relief." Dr. Cassidy's paper was enjoyed by everyone present. His vast experience in such cases renders him an authoritative teacher on the subject. The Society is greatly indebted to Dr. Cassidy for coming to Jackson.

The meeting then adjourned. Attendance, 48.

P. Riley, Secretary.

GRATIOT-ISABELLA-CLARE CO.

The Gratiot-Isabella-Clare County Medical Society closed one of the most successful years we have had under the Presidency of Doctor C. F. DuBois with a dinner and combined meeting with the 9th district Dental Society.

Our speakers were Dr. Boyd S. Gardner, D. D. S., from the Mayo clinic, who spoke on the topic: "The Interdependency of Medicine and Dentistry Illustrated" and Dr. Frederick A. Coller, Prof. Surgery, University of Michigan, whose topic was the "History of Medicine Illustrated."

Dinner was served to seventy-six.

Before the dinner President DuBois called the members together to hear the annual report of the Secretary, which was as follows:

As a matter of record of our society activity

for the year 1929, the following is the list of scientific meetings held:

January 31—Symposium on "Scarlet Fever Immunization." Speaker: Dr. Guy Kiefer, State Commissioner of Health, and Dr. C. C. Young, Director of Laboratories.

February 21—"Medical Impressions of Soviet Russia," illustrated. Dr. Leo Dretzka, Detroit, Michigan.

March 21—"Round-Table Discussion of Society Problems." Dr. Julius Powers, Saginaw, Michigan, Councillor for 8th District.

April 18—"Surgical Common-Places the General Practitioner Should Know," Dr. Clark D. Brooks, Detroit, Mich.

May 9—"The Doctor Looks at the Orient," illustrated. Dr. Louis J. Hirschman, Detroit, Michigan.

June 20—"A Medico-Historical Ramble in Europe," illustrated. Dr. Henry Carstens, Detroit, Michigan.

October 10—Symposium on "Outstanding Advances in Therapeutics in the Past Ten Years."

Speakers: Dr. Richard M. McKean, Detroit, Michigan, and Dr. Daniel P. Foster, Ford Hospital Staff, Detroit, Michigan.

November 14—"Medicine and Surgery of Latin America," illustrated. Dr. Frank Corrigan, Cleveland, Ohio. "New Work in Fractures," Dr. John R. Davis, Toledo, Ohio.

December 6—"Interdependency of Medicine and Dentistry," illustrated. Dr. Boyd S. Gardner, D. D. S., Chief of Dental Service, Mayo Clinic, Rochester, Minn.

"History of Medicine," illustrated. Dr. Frederick A. Collar, Prof. of Surgery, University Hospital, Ann Arbor, Michigan.

During the year we made several innovations in our programs. As a change from strictly scientific programs we interspersed a series of "Medical Travelogue" talks which proved very interesting for the membership. To compensate many of our members for the long distance they had to come to attend meetings, we instituted a full medical evening by having dual-programs, using two speakers on the same or varied subjects.

The following officers were elected for the year 1930:

President—Dr. M. J. Budge of Ithaca, Mich.

Vice-President—Dr. Wm. L. Harrigan of Mt. Pleasant, Michigan.

Secretary-Treasurer—Dr. E. M. Highfield, Alma, Michigan.

E. M. Highfield, Secretary.

CALHOUN COUNTY

The November meeting of the Calhoun County Medical Society was held at the Post Tavern, Tuesday evening, November 5th, 1929.

An unusual number of members were present for the dinner which preceded the meeting. At 7:45 the president, R. V. Gallagher, called the meeting to order, and the Secretary's report, as printed in the Bulletin, Vol. XII, No. 9, was adopted as printed. A bill for $13.30, covering postage, mailing, record book, telephones, and guests meals was read and ordered paid. The names of Doctors Lyman B. Tibbotts and Howard F. Morse, having been approved by the censors, were unanimously elected to membership in the Society. This brings our total membership up to 123.

The subject of a fee schedule covering the care of indigent cases paid for by the county was discussed, and a motion was made and carried that a committee be appointed to confer with township health officers and poor commissioners and compile a fee list for adoption.

The following committee was named:

Dr. A. M. Giddings, Dr. Stanley Lowe, and Dr. R. H. Baribeau.

Under Reports of Committee, Dr. R. H. Allen Chairman of the Committee on Clinics, made the following report:

"Your Committee on Clinics beg to make the following report.

"After free discussion and consideration of reports from Kalamazoo, Jackson, Lansing, Flint, Pontiac and other cities, it is recommended for the City of Battle Creek that a full time physician be employed to do health inspection work in the Public Schools, and that no treatment be given by him except first aid in emergency cases."

"It is also recommended that the Board of Supervisors adopt the County Health Unit Plan for health inspection of the schools not included in the City of Battle Creek."

It was moved by Knapp and seconded by Rosenfeld that the report be adopted.

Under discussion, we were fortunate in having with us Dr. Don Griswold, of the State Department of Health at Lansing, who spoke of the work of the state in organizing the County Health Unit. The first step before doing anything to start the County Health Unit plan is to have the endorsement of the Medical Society. This done, the State Department takes up the matter with the County Board of Supervisors. The Rockefeller Foundation co-operates to the extent of $2,500 a year to help put this plan in operation. The County Plan has in mind the services of a full time physician trained in public health work, two nurses, and an office assistant. The motion was carried. .

It was moved that a committee be appointed to co-operate with the Department of Health to carry out this work. Carried.

The following committee was appointed by the President:

1. Dr. H. R. Allen, Battle Creek.
2. Dr. G. B. Gessner, Marshall.
3. Dr. H. B. Keeler, Albion.
4. Dr. L. S. Hodges, Tekonsha.
5. Dr. Clare Derickson, Burlington.

Dr. C. S. Gorsline announced that the School Board of Battle Creek had cooperated in the sending of Hygeia to the schools of the city by paying $105.00 for the subscriptions sent. Applause.

The first essayist on the program, Dr. John T. Hodgen, of Grand Rapids, was introduced by Dr. Joseph Rosenfeld. Dr. Hodgen gave a learned discussion on Colles' fracture, which was first described in 1814 by Colles, of Dublin. The fracture includes all complete fractures on the lower end of the radius near the wrist. He pointed out that the styloid process of the radius is two and a quarter cm. longer than the ulnar styloid, and this should be considered when trying to reduce this fracture.

1. Alignment.
2. Setting of the muscles at rest in cast.
3. Use of both anterior and posterior splints.
4. Plaster paris ideal.
5. X-Ray before and after reduction.
6. Move fingers from day to day.
7. Little pain if fully reduced.
8. Immediate reduction.
9. Anaesthetic, local or general.
10. Keep under observation.

Discussion was led by Dr. Brainard, who heartily agreed with the essayist in the exposition of his subject. He emphasized the importance of a complete reduction in order to give relief from pain.

Dr. W. A. Brinton, late from the Mayo Clinic, discussed the subject of "Head Injuries." His classification was simple and met with approval.

1. Scalp abraisons.
2. Scalp lacerations.
3. Skull fracture with and without symptoms.
4. Intra-cranial injuries.

Under symptoms he listed the following:

1. Mental disturbances.
2. Headache.
3. Vomiting.
4. Hemorrhage, from eyes, ears, nose, etc.
5. Odema of orbit.
6. Emphasema of the face and scalp.
7. Paralysis of opposite limb.
8. Cranial nerve involvement.
9. Retinal Hemorrhage.
10. Bloody spinal fluid.
11. Variations in blood pressure.

Treatment includes treatment for shock. Decompression, glucose solutions, hypertonic salt solutions, transfusions, etc.

Discussion was quite general by Drs. Gorsline, Riley, Rosenfeld, and Hanson.

Meeting adjourned.

Members present, 55.

HARRY B. KNAPP,
Secretary.

FINANCIAL STATEMENT OF THE CALHOUN COUNTY MEDICAL SOCIETY FOR 1929

Receipts

Balance from last year	$ 195.36
From Dues	1,807.50
School Board for Hygeia	105.00
Total	$2,107.86

Expenditures

Secretary's Office—Postage, mailing, addressing, guest meals, phones, telegrams	$ 128.90
Entertainment program, Speakers	107.50
Audit	10.00
State per capita tax	1,185.00
American Legion advertising	40.00
Printing and Stationery	86.10
Flowers	15.00
Profit on Bulletin (June to June) paid to Secretary	95.95
Hygeia	345.80
Secretary's Fee	50.00
Total	$2,064.25
Balance on hand	$ 43.61

PROGRAM REPORT

The following essayists appeared before this Society last year:

December, 1928—Professor Carl Huber, Ann Arbor.

January, 1929—Dr. Plim F. Morse, Detroit.

February—Dr. Channing W. Barrett, Chicago.

March — Dr. Carl A. Hedblom, Chicago; Dr. Willis S. Lemon, Chicago; Dr. William Vis, Grand Rapids.

April—Dr. Hugo A. Freund, Detroit; Dr. A. A. Hoyt, Battle Creek.

May—Dr. Harry E. Mock, Chicago; Dr. A. C. Selmon, Battle Creek.

June—Dr. F. B. Tibbals, Detroit.

September—Dr. J. B. Jackson, Kalamazoo; Dr. L. E. Westcott, Kalamazoo; Dr. R. E. Balch, Kalamazoo; Dr. D. C. Rockwell, Kalamazoo.

October—Dr. C. R. Hills, Battle Creek; Mr. John T. Cleary, Battle Creek.

November—Dr. John T. Hodgen, Grand Rapids; Dr. W. A. Bunten, Detroit.

MICHIGAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS BOARD OF DIRECTORS MEETING—DEC. 6, 1929.

The Board of Directors of the Michigan Association of Industrial Physicians and Surgeons met at Battle Creek, December 6th on invitation of the President, Dr. C. S. Gorsline, to a complimentary dinner at the Post Tavern.

The following physicians who constitute the board were present: President, C. S. Gorsline; Vice President, C. W. Brainard, Battle Creek; Secretary-Treasurer, F. A. Poole, Lansing. Board members: G. C. Penberthy, Detroit; R. H. Denham, Grand Rapids, and Carl F. Moll, Flint.

The principal items considered by the board were the time and place of the annual meeting of the Association and the appointment of committees. It was decided that for the best interest of all concerned, this organization should meet at some other time than during the State Medical Society's annual meeting, to allow more time and undivided attention to discussion of the Industrial Physicians' problems. Accordingly it was decided to hold the annual meeting the 25th of April at Flint. A splendid program of clinics, papers, and addresses with a 6 o'clock dinner is already assured for that day and early evening.

The board appointed the following members on committees for the ensuing year:

1. *Membership*: T. F. Heavenrich, Port Huron; A. W. George, Detroit; W. L. Finton, Jackson; A. R. Hackett, Detroit; Henry J. Pyle, Grand Rapids; A. W. Hornbogen, Marquette.
2. *Program*: C. W. Brainard, Battle Creek; G. C. Penberthy, Detroit; R. H. Denham, Grand Rapids; Geo. J. Curry, Flint.
3. *Arrangements*: C. F. Moll, Flint; J. G. R. Manwaring, Flint; G. J. Curry, Flint; D. L. Treat, Flint; F. E. Reader, Flint.
4. *Publicity*: F. A. Poole, Lansing; Geo. A. Seybold, Jackson; H. S. Collisi, Grand Rapids; A. C. Selmon, Battle Creek; A. H. Whittaker, Detroit; A. C. Christensen, Dearborn; Carl A. Mitchell, Benton Harbor; R. U. Adams, Kalamazoo; V. S. Laurin, Muskegon; F. J. Moloney, Sault Ste. Marie.
5. *Legislation and Industrial Relations*: R. H. Denham, Grand Rapids; Don F. Kudner, Jackson; L. I. Condit, Detroit; E. I. Carr, Lansing; Henry Cook, Flint.
6. *Constitution and By-Laws*: H. N. Torrey, Detroit; J. G. R. Manwaring, Flint; G. C. Penberthy, Detroit.

The increasing interest in this association of industrial physicians is evidenced by the large number of physicians that have joined since the September meeting. It is the desire of the Board of Directors that all present members aid the Membership Committee in enlisting in this organization all those physicains who are engaged in any way in industrial practice.

F. A. Poole, M. D., Sec.-Treas.

WOMAN'S AUXILIARY, MICH. STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, *President*
Jackson, Mich.

MRS. J. EARL McINTYRE, *Secretary*
Lansing, Mich.

Mrs. L. J. Harris, the newly elected president of the Woman's Auxiliary to the M. S. M. S., has a new plan for the page in the Journal which has been so kindly given us. Mrs. Harris' plan is to have a member of the Executive Committee send in an article each month, dealing on some subject of interest to our auxiliary. Mrs. Peterson of Jackson will have the first article and then we hope to hear from the various members.

We are also very desirous of having items of interest from the various county units as Mrs. Harris feels it is a way of our becoming better acquainted with each other. As we have but one meeting a year we are given very little opportunity to become personally acquainted, while if we read of the activities of the county Auxiliaries it would have a tendency to keep us in touch with each other.

The members of the Jackson County Auxiliary have a pot luck supper and evening together each month when the doctors have their medical meeting. Their members are very much enthused and feel other Auxiliaries might enjoy this sort of meeting.

The members of the Ingham County Auxiliary entertained at a beautiful bridge tea at the Woman's Club House a few weeks ago. All doctor's wives, whether members or not, were invited and fifteen tables were in play. It was a very delightful and successful affair.

A short time ago your secretary received a letter from one of the Auxiliaries asking for what purpose dues to the State Auxiliary were used. For general information Mrs. Harris suggested that we state that this is the first year the State Auxiliary has had any money to handle. The first year we were organized the Michigan State Medical Society appropriated a certain amount for caring for our expense which Dr. Warnshuis had charge of. The county Auxiliaries until a year ago remitted to the state twenty-five cents for each member in good standing. That money was turned over to the National treasurer so we might have recognition in the National organization. The past year several of the County Auxiliaries paid one dollar for each member, in accordance with the constitution and by-laws. From the sum received the only expense incurred has been for stationery, postage and a record book. A motion was made and carried at the last annual meeting that the expense of the members of the Executive Board be paid when attending a meeting. So far the members have not rendered their bills.

The president, Mrs. L. J. Harris of Jackson, or your secretary, will be glad to hear from any members and will be pleased to have items of interest to send into the Journal whenever you may have them.

Mrs. J. Earl McIntyre, Secretary.

THE DOCTOR'S LIBRARY

Offering Suggestions and Recommendations

OUTLINE OF PREVENTIVE MEDICINE, by 21 contributors, the Committee on Public Health Relations, under the direction of the New York Academy of Medicine. Paul B. Hoeber, publisher, New York.

This book is prepared under the auspices of the Committee on Public Health Relations of the New York Academy of Medicine. It is unique in that it is the response of a group of medical practitioners to put together these facts that have to do with preventive medicine, that would be of interest to medical practitioners and students.

The author list is impressive and the subject listed is particularly well chosen. It brings together the facts with regard to the preventive side of the practice of medicine, in all of the various specialties and several subdivisions. In this particular, it will serve a very good purpose and should find a place in the library of all general practitioners.

Unfortunately it does not go into the history of development of any of these lines of endeavor, nor does it develop any of the preventive methods along the lines which they will probably take in the future. It is a book very much for the present and will be a help to many practitioners on that basis.

The chapter on periodic health examinations is particularly good.

The chapter on laboratory aids could have been materially improved by presenting the significance and lack of significance of various laboratory procedures utilized by clinicians, rather than water, sewage, garbage, air, and the like, which are laboratory procedures not utilized by clinicians. A discussion of the significance or lack of significance of a negative Widal test, negative Wassermann test, and a negative diphtheria culture test would have added considerable to this chapter.

The chapter on general medicine is very good except for the omission of certain data concerning scarlet fever, which should be available for the group for which this book was intended.

The section on Allergy could have been made much more useful by a systematic presentation of what the practitioner can do in prevention when a patient comes to his office.

The book is well gotten up, and brings together much of the information which should be available for the general practitioner in the field of preventive medicine. It is well printed on good paper and should meet with a ready response by the forward looking physicians.

The chapter on periodic health examinations if followed carefully will be worth the price of the volume.

USE MAGGOTS TO FIGHT INFECTIONS IN WOUNDS

Maggots, the tiny crawling larvae of blow flies, may prove to be of great value in preventing and checking wound infections. This new method of treating wounds which is now being investigated was developed from observations made during the World War by an American surgeon, Dr. William S. Baer, now clinical professor of orthopedic surgery at the Johns Hopkins University School of Medicine, Baltimore.

Dr. Baer noticed that when the wounded men had been lying out on the ground for some time before being brought to the dressing stations, their wounds were covered with tiny maggots, the larvae from which common flies develop. But these men, strangely enough, did not develop infections in their wounds, as did those whose wounds had been dressed and treated very soon after their infliction. The men who had been lying on the ground untreated the longest and who had the most maggots crawling on their wounds were the ones who did not develop any infections.

Further investigation of this unexpected state of affairs disclosed that the maggots were eating the dead tissues, bone and flesh, and thus destroying the material that would have furnished good breeding ground for bacteria. The bacteria which might have gotten into the wound and set up an infection were unable to exist in the wound which the maggots had cleaned up.

After the war Dr. Baer remembered the action of the maggots when he was treating children suffering from osteomyelitis. This disease is an inflammation of the bone, more common in children than in adults. It is the result of an infection and requires prompt surgical treatment. Recovery is often delayed for years if the disease reaches the chronic stage. In order to hasten the healing of the wound after operating on this condition, Dr. Baer has been using maggots with good results. The tiny creatures consumed all the dead tissue about the wound and the bacteria which had been causing the infection soon died from lack of sustenance.

The investigations along this line were abruptly halted during the first winter, when the cold weather killed the flies and so cut off the supply of maggots. Now, however, this contingency has been provided for, and Dr. Baer has a plentiful all-year-round supply of the tiny creatures.—Science Service.

NEW TEST PREDICTS SUCCESS OF MEDICAL STUDENTS

A test which can be given to students who apply for entrance to medical schools, designed to sort out the students who will make good from the students who are likely to fail, was described by Prof. Fred A. Moss of George Washington University, speaking before the American Association of Medical Schools meeting at Columbia University.

Present methods of selecting medical students notedly result in much misplaced energy, and great waste of time and money. Prof. Moss, who is a physician as well as psychologist, pointed out that about 7,100 students started on freshmen courses towards a medical degree last year, and of these more than 1,000 put in a year's study, only to flunk the freshmen course. Medical school officials who picked the 7,100 turned down about 20,000 applications. The usual grounds for selection were the number of premedical college credits held by an applicant and his ratings on his college studies.

A psychological test of aptitude for a medical course has been devised by Prof. Moss and two associates, Dr. Oscar B. Hunter and H. F. Hubbard, and an experiment which guages its efficiency has very recently been conducted, the psychologist explained. Twenty-two medical schools gave the test to their students at the close of the freshmen year to see whether the test could have predicted the students' learning ability.

Among the students who were picked out by the test as the best of the lot, none failed in their courses. At the other end of the scale, among the students rated lowest by the test, 42 per cent failed the freshmen course and 44 per cent were conditioned.

The experiment indicates that by refusing admission to prospective students who fail to pass the aptitude test, a medical school could eliminate 75 per cent of the applicants destined to fail. At the same time the test would eliminate only 12 per cent of the students who would have ranked among the best medical students. The method of selection now used by the schools appears to cut out about 60 per cent of the failures and 38 per cent of the best students.

Prof. Moss' aptitude quiz includes 100 questions on pre-medical subjects, a test of visual memory based on an anatomical drawing, a test of memory based on a passage from an anatomy textbook, and a test of ability to understand and recall a difficult neurological paragraph.—Science Service.

"MIND CURE" IS NOW BECOMING SCIENTIFIC

"Mind cure" is rising from the realm of quackery and becoming a part of scientific medicine, Dr. William A. White, superintendent of St. Elizabeth's Hospital, Washington, D. C., told physicians at the second annual Graduate Fortnight of the New York Academy of Medicine. "One of the most general functions of the human mind is to smooth out inequalities of emotional balance. The healthiest and most normal mind is the mind which is most continuously in a state of emotional equilibrium," Dr. White stated. "A person whose emotions are evenly balanced does not see things out of focus. He is not overly anxious or overly solicitous. He is not too severe nor too complacent. His emotions are reasonably adjusted to the situation as it actually is. He does not see enmity and antagonism where it does not exist, nor does he fear dangers which are only made of thin air." The psychotherapist should have a mind of such type. "The whole psychotherapeutic movement is tending in the direction of facts rather than, as in the past, in the direction of mysticism," Dr. White said. He then explained the present trends followed by psychotherapy, the scientific "mind cure."—Science Service.

DOCTORS IN U. S. PLENTIFUL BUT BADLY DISTRIBUTED

An enormous army of practitioners and assistants exists in this country for the purpose of caring for the sick people and preventing illness among the well. The actual and estimated figures, showing that more than one out of every

hundred in the population are engaged in such activities, have just been compiled by the Committee on the Cost of Medical Care.

"There are in the United States more physicians per 100,000 people than in any other country in the world," the committee reported as a result of one of its surveys which showed that there are 143,000 physicians in the country.

About 1,500,000 people, enough to make a city bigger than Detroit, are employed in connection with the care and prevention of illness, the committee estimated. This figure includes physicians and their attendants, dentists with their assistants and technicians, trained and practical nurses, midwives, physiotherapists, hospital superintendents and personnel, pharmacists and drug clerks, opticians, health department and clinical laboratory personnel, chiropodists, masseurs, and all the "healers," such as Christian Science practitioners, osteopaths and others.

Of these, the 550,000 workers in hospitals, exclusive of nurses, physicians and superintendents, make up the biggest group. The next largest is the group of practical and trained nurses, totaling 351,996, and the third largest comprises the 143,000 physicians.

Uneven distribution of physicians exists throughout the country, which more than the total number, affects the sufficiency.

"In 1927 South Carolina and Montana had only 71 physicians per 100,000 people; California, at the other extreme, had 200," the report says. "Various state surveys show clearly that the larger cities are over-supplied with doctors relative to population, whereas the smaller towns and rural districts are relatively under-supplied. The proportion settling in the larger cities is becoming progressively larger."—Science Service.

NEW DRESS STYLES DRAW CENSURE OF PHYSICIANS

"An unmitigated evil," "unhealthful," "deplorable," "unfortunate" are some of the comments of leading physicians when asked by Science Service to give their opinions of the newest styles of women's dress. These doctors have considered the probable effect on women's health of a return to dress styles of an earlier age. They agree that woman today is healthier than she was in the days of tight-fitting corsets and long, sweeping dresses.

Recalling the long full skirts worn 20 years ago, these physicians also recalled the germ-laden clouds of dust and dried dirt that these skirts raised when women walked along the streets. The trailing skirt was considered a menace to the woman's own health and to that of others about her.

These physicians remembered, too, the tightly-corseted figure of some years ago. They remembered how the liver and spleen were pushed up out of their normal, proper place in the body, and the intestines crowded down by the tight lacing necessary to achieve a "wasp waist."

Of course, the newest dresses are not wasp-waisted, and street dresses do not yet sweep the ground, far from it. However, many forward-looking persons are asking whether the latest fashion of longer skirts, form-fitted dresses and corsets will stop where it is, or whether it will not swing all the way back to the extremes of the gay nineties and the early 1900's.

Long, full skirts, even if they do not reach the ground, and corsets, no matter how loosely-fitting, are hampering to physical activity. Some physicians see harm enough in the new clothes if they do no more than keep women from engaging in the healthful athletic activities which have kept them out in the fresh air and sunlight and given them new health and endurance in the years since the World War. Hampering garments also would make women less agile in dodging the present-day swiftly moving vehicles, and might prove an added accident hazard to the great numbers of women now engaged in industrial operations.

Some leaders of the medical profession believe that with woman's lately-acquired physical freedom has come a greater freedom of mind and spirit. The modern woman will perhaps refuse to be a "slave to fashion" and will insist on the dress styles in which she has found greatest comfort, freedom of movement, and, perhaps, greatest health.

WHOOPING COUGH STILL A DANGEROUS DISEASE

Whooping cough still ranks as a deadly disease, in spite of efforts to check it. The general belief that it is merely an annoying but necessary evil of childhood is all wrong. Scientists and public health officials are warning mothers not to take it lightly and to be ready to guard their children against the usual spring and summer outbreaks.

"No other common infectious disease of childhood takes so large a toll of life among children under two years of age," said Dr. Matthias Nicoll, jr., New York State Commissioner of Health. Whooping cough is dangerous in itself and also because it is frequently followed by pneumonia and tuberculosis.

Various vaccines and sera for preventing the disease have been developed. None of them has been entirely satisfactory, although some physicians have reported success with them. One of these which does not entirely prevent the disease, does reduce its severity and the fatalities resulting from it, and is recommended by health officials. The best prevention still consists in keeping children away from those who have whooping cough. This is difficult because the characteristic whoop does not develop until a week or more after onset of the disease. Consequently one must keep the children away from those who have colds or coughs, to be safe. Reduction of whooping cough has lagged far behind reduction of other communicable diseases chiefly because of the popular attitude that it is not a serious disease.

"Deaths from whooping cough occur just as often as they did 25 or 30 years ago," stated Dr. Nicoll.

The cause of whooping cough is generally accepted as being the Bordet-Gengou bacillus, named for the two Frenchmen who isolated it in 1906. It has been the basis of most of the attempts to produce an antitoxin or preventive vaccine.

Ultraviolet and X-rays, alkalis, blood serum and even ether have been used more or less successfully in the effort to find a cure or preventive of the disease.—Science Service.

STUDY OF EARLY AMERICAN MEDICAL HISTORY ADVISED

The first duty of the newly founded Department of the History of Medicine of Johns Hopkins University, Baltimore, will be to investigate the early medical history of our own continent, if the advice given at the dedication ceremonies by Prof. Karl Sudhoff of the University of Leipzig is followed.

Prof. Sudhoff is the greatest medical historian of our age, possibly of any age, and the high esteem in which he is held by Dr. William H. Welch, who will direct the new department, makes it likely that his advice will be followed.

The study of early American medicine will go back to the Incas, Mayas and Aztecs, whose ruined cities are now being investigated by archaeologists. All American and South American medicine, both ancient and modern, is an especially appropriate field for investigation by the new department, but this department's field is really world-wide, Prof. Sudhoff declared.

"A physician who knows only medicine, does not even know medicine," Prof. Sudhoff quoted, explaining that without historic perception the physician lapses into a mechanic. He also emphasized that an important phase of medico-historic investigation is its unifying function with reference to the basic disciplines and the many specialties of scientific medicine.

Dr. Welch himself, who is now professor of the history of medicine, believes that a study of medical history by periods is desirable. Also, he said that a knowledge of actual medicine, such as may be gained from actual practice, is of utmost importance before an attempt is made to write medical history. He attributed much of Prof. Sudhoff's own success as historian to the fact that he was a physician before he became historian.

Because of the "tumultous" state of American universities today, the new department of history of medicine is particularly significant, Dr. Abraham Flexner of the General Education Board, pointed out. With the increased facilities of our universities has come simultaneously an increased cheapness and mechanization which is to be deplored. The new department or institute will lead a return to more cultural aspects of education, particularly along scientific and medical lines, where the emphasis now seems to be almost exclusively technical.—Science Service.

PUBLIC AND PRIVATE MEDICINE SEEK ROAD TO RECONCILIATION

The dread ogre of physicians, socialized or state, medicine, was brought into the light, examined and shown not to be so fearful after all at the recent meeting of the Board of Counsel of the Milbank Memorial Fund. Practical steps for a solution of the great controversy of public health vs. private practice were presented by a physician, Dr. James Alexander Miller.

Dr. Miller advised his fellow physicians to acquire a broader outlook on public problems and to consider the matter of the public health as well as the curing of individual patients. At the same time, health departments and other health organizations were advised to enlist the aid of private physicians in putting over their health programs, rather than to spend public funds for work that rightfully should be done by the private physician for the people of his community.

The sympathetic individual touch that exists between doctor and patient is important and should be saved, Dr. Miller declared. Clinics and dispensaries, insurance companies and health departments cannot give this, although they can do much good work. However, from the ranks of practicing physicians are arising men who have not lost touch with individual, curative medicine but who have also interested themselves in prevention medicine. Such men, leaders in their profession, will become connecting links between the medical profession and the public and private health organizations, Dr. Miller prophesied.

"The growing knowledge of causation of diseases has forced preventive medicine into the foreground," said Dr. Theobald Smith. Research has become the fountain head of advances in both curative and preventive medicine, he pointed out in a discussion of how research has brought the practice of medicine and public health activities into closer relationship. While the conflict between the two wings of medicine is natural, both wings are really needed by the public, he said. The physician is the outpost for the public health officer, discovering new diseases and their cause and new means of treating and preventing them. Health demonstration programs may be considered as a kind of research experiment in themselves in proving how good our knowledge of disease prevention is.—Science Service.

SEX HORMONE ISOLATED BY GERMAN CHEMIST

The improtant sex hormone has just been obtained in pure form for the first time by a German scientist, Dr. M. Butenandt, working at the laboratory of a recent Nobel Prize winner, Professor Adolf Windaus, at the University of Goettingen, Germany. This hormone, which has been known to the medical profession for some years, is thought to be capable of restoring the functioning of the reproductive organs. Heretofore it has been obtained only in combination with other compounds, but Dr. Butenandt has been able to produce the hormone itself in pure form, as a crystalline substance which he has named progynon. The sexual hormone is one of a number of curious and as yet little understood substances which are secreted by the ductless glands of the human body. Each of these special chemicals is responsible for the proper functioning of certain bodily activities, and physiological chemists believe that a systematic study of these secretions will lead not only to an understanding of the physical operations of the body, but even to an explanation of mental characteristics and that elusive property called "character."

The importance of obtaining a hormone in a pure state is that it is the first step toward the determination of its structure and its synthetic production in the laboratory. The action of the hormones within the body and their influence on other chemical processes of the body may be better understood after the structure of the hormones has been determined.

Progynon belongs chemically to the group of stearates, or fats, and it is related to the artificial vitamin, vigantol, discovered by Professor Windaus. This also puts it in the same class as the poison of toads and the bile acids. On the other hand, adrenalin, the hormone of the suprarenal glands, is related chemically to the plant drugs known as the alkaloids, of which morphine is a well-known example. Adrenalin was the first hormone isolated in a pure state, and it has since been produced synthetically.—Science Service.